NEW REMEDIES.

THERAPEUTICS.

THE PHYSIOLOGICAL ACTION OF BEEF-ESSENCE AND THE POTASH SALTS.

Under the above title Gustavé Bunge publishes an elaborate paper, the more important points of which are contained in the following translation:—

Beef-essence and beef-extract are among the most used agents of modern therapeutics, and for a long time were supposed to contain the substance of the meat. When under rigid experimentation this was discovered not to be the case, and it was found that beef-extract contained little or none of the nutritive portion of the meat, Liebig asserted that the muscular extractives, especially the kreatin and the kreatinin, were of value as a working material for the muscles of the economy. This assertion was shown to be incorrect by the experiments of Meissner and of Voit, who proved that the kreatin and kreatinin were excreted unchanged from the kidneys.

Kemmerich then, in an elaborate paper in the *Deutsche Klinik*, investigated the matter, and arrived at the conclusion that beef-extract is a stimulant, strengthening the heart's force and acting generally more like tea or coffee than like a food.

Kemmerich had noticed that after an injection of concentrated flesh-broth into the stomach of a rabbit there followed increase of the rapid-

ity of the heart's action, and finally death from the paralysis of the heart. He ascribed these results to the influence of the potash salt upon the heart, as he found the same results follow the similar use of the ashes of the meat, in proportional quantity. The quickening of the pulse by a potash salt is, however, in direct contradiction to the experiments of Traube, Guttmann, and Podkopaews, and it was especially to this point that the researches of G. Bunge were directed. He found by chemical analysis that Liebig's extract contains, besides water, 21.9 per cent. of inorganic matter, about half of which is potassa, and of the remainder about $\frac{2}{20}$ is soda and $\frac{7}{20}$ phosphoric acid.

The first set of experiments were directed to seeing if the extract had any appreciable effect in quickening the pulse of the dog, or in elevating the temperature in the rectum. The chief difficulty in this is found in the repugnance both of the dog and his stomach to the material; but by making it into pills it was finally given and retained for two hours before vomiting came on. The result of the carefully conducted experiments was entirely negative; the largest doses that could be given failed entirely to elevate the temperature or pulse.

These experiments were followed by similar ones made upon himself; every precaution was taken to avoid all disturbing influences, and the result confirmed entirely the previous ones. Owing probably to the perfect quietude preserved, the pulse actually fell in some of the experiments. No increase of the bodily temperature or the pulse rapidity could at any time be discovered following the ingestion of the extract.

The experiments of Kemmerich on rabbits were then carefully repeated, and similar results obtained. Always following the injection of the beef-extract into their stomachs, there was very marked increase of the pulse rapidity, and finally, if the quantity were sufficient, gradual death from paralysis of the heart. The agreement with Kemmerich's results was complete, even as to the quantity necessary to produce death.

The potash exists as a phosphate in the flesh-extract, and Herr Bunge now injected an amount of the pure salt, equal to that contained in the fatal dose of extract, into the stomach of a rabbit, with the same results as Kemmerich, namely, great increase in the rapidity of the heart-beat, and then death from paralysis of the heart.

The resulting paralysis is in complete accordance with the results of all investigations of the action of the potash salts, and is, no doubt, a direct action of the potash of the extract; as to the increase in the heart's rapidity, that is another question. By direct experiment our investigator found the mere gagging and introducing of the stomach-tube was sufficient to influence for a considerable time the heart's action; but

that after this, injection of distilled water, of solutions of sugar, soda, and potash salts, and of beef-extract, all caused very marked increase in the rapidity of the heart's beat. In the case of the warm water this increase was not nearly so lasting as when the saline and saccharine solutions were used. The syrup was especially active in this respect, and the author thinks the increased activity of the heart is simply owing to the effect of the liquid on the intestinal canal and stomach, and that the differences in the endosmotic action of the various fluids is indirectly the cause of the different degrees of their action. All the evidence seems to bear out his conclusion, that there is no proof that the increased rapidity of the pulse, after the injection into the stomach of a rabbit of a solution of beef-extract or a potash salt, is due to a direct action of the latter on the heart.

Mr. Bunge also studied the action of the potash salt upon the rabbit when injected subcutaneously. He found that after the injection of a fatal dose of a potash solution, there was, after a period of increased rapidity, lessening both of the rapidity and force of the heart's contractions, and finally death. When a not fatal dose was used, there was a decided increase in the rapidity of the pulse. Our author attributes this increase to the pain caused by the injection, but did not prove it, not being able to devise an experiment which should avoid the local action of the salt. The pain produced was very intense, and may have been the cause of the increase of the heart's action, as is made more especially probable by the fact not noticed in Mr. Bunge's remarks, but evident in his notes on the experiments, that when the potash was injected into the jugular vein no increase in the rapidity of the pulse occurred.

Experiments upon dogs and cats yielded similar results; the slowing of the pulse was only seen in fatal cases, when death took place through gradual extinction of the heart's action.

Various experiments were also gone through to test the effect upon the arterial pressure. In some a slight increase, in others a slight decrease of the arterial pressure was produced by the injection of the salt into the jugular vein; only after fatal doses was there a decided reduction of the force of the heart. In one case immediate arrest of the heart's action followed the injection.

The nitrate of potash, given to men in doses as high as two and a half drachms, produced no perceptible influence on the pulse or temperature, and heart poisoning from the salt taken into the stomach is shown to be impossible, the quantity required being so great that it would of necessity be rejected.

In conclusion, Mr. Bunge thinks it cannot be longer denied that the beef-tea or beef-essence is really of no use except on account of its taste, which it may impart to a mass of otherwise insipid vegetable

food. The feeling of refreshment following beef-tea, he thinks, is only due to its being taken hot, and to its taste having a psychical influence. —Pflüger's *Archives für die gesammte Physiologie*, 1871, p. 238.

ON THE MEANS OF TEMPERATURE LOWERING.

Under the above caption Dr. Wjatscheslau Manassein publishes, in Pflüger's *Archives für die gesam. Physiologie*, p. 283, 1871, a paper of twenty pages, whose study we commend to any one interested in such subjects, as being full of instruction as to the method of such experimentation. We have only space for his results. He found that merely swinging rabbits in a box was sufficient to cause a depression of temperature varying from 1.2° C. to 0.3° C., the average of fifty-six experiments being 0.66° C. That this was not owing to cooling by the currents of air, was demonstrated by the fact that wrapping the animal in cotton-wool did not alter the result; that when a short, rapid vibration was used the lowering of the temperature was less marked than when a long, slow swing was employed, and that the lower point was not attained until some time after the cessation of the motion, generally about thirty minutes. Whether the axis of the swinging motion corresponded to or was at right angles to the long axis of the body did not affect the result, and the experimenter thinks that this shows the results were not due to interference of the motion with the circulation. Bandaging the eyes intensified the fall of temperature, the result being, in fourteen experiments, maximum 1.4° C., minimum 0.3° C., average 0.79° C. On the other hand, if a band was drawn around the throat, so as to decidedly interfere with respiration, the animal remaining quiet, the repression of temperature was much less.

It has been shown by the experiments of Gscheidlen that the activity of the respiratory centres in the medulla oblongata is lessened by morphia, even in small doses; and previous experimentation having shown Dr. Manassein that whilst large doses of morphia depressed the temperature, small doses had no such effect, but at times were even followed by a rise of temperature, it occurred to Dr. M. to try the influence of small doses of morphia in the swinging experiment. The result was, that in thirty-seven out of forty-five experiments the swinging was not followed by any fall of temperature, small doses of morphia having been previously administered. Twenty-eight experiments were tried upon rabbits, in whom pyæmic fever had been caused by the injection of putrid matter. The results were, that in the feverish state the swinging has the same effect as in the natural condition, and that by

repeated swingings it is possible to depress the temperature to the normal point, and that the swinging has less action at the time when the fever heat is rising than at periods when it is falling.

DISINFECTION.*

A DISINFECTANT is, in the broadest acceptation of the term, anything which counteracts infectious, contagious, or effete matter. How a few disinfectants produce their effects is perfectly understood, and presents no kind of mystery; how other disinfectants work is matter of dispute, and regarding the action of a good number of them we have as yet hardly arrived at the stage of controversy.

The material whose effects are to be opposed by disinfectants is held by some authorities to be animal or vegetable germs, and by others to be subtle organic poisons of surpassing power; and possibly enough may be of all these kinds, but must at any rate consist of complex organic matter. In common with all organic matter, the matter of contagion may be destroyed, and therefore rendered inoperative, by exposure to a red heat, in presence of excess of oxygen. Fire, therefore, is a disinfectant whose action is intelligible, and whose absolute efficacy is undoubted.

The action of destructive chemical agents, such as hot concentrated sulphuric, nitric, or chromic acid, is, in like manner, quite intelligible. Disinfection by this means is even more costly than by fire.

We have instanced disinfectants which are effective and impracticable, in order to throw light on those which are practicable and not effective or much in vogue at the present time. Chlorine, which in the form of bleaching-powder is much employed as a popular disinfectant, will necessarily destroy contagious matter, as it does all organic matter, if suitable precautions be taken to insure the conditions under which it can act thoroughly. But to use chlorine under these conditions is no more practicable than to use boiling concentrated nitric acid, and the manner in which chlorine is actually used, and that which alone is practicable, is not effective.

Suppose, instead of burning the clothes of the plague-stricken patient, we were to reduce them to pulp, bleach the pulp, and make paper of it, should we get plague-paper from the plague-rags? We cannot guarantee that we should not; but if we pushed the action of the chlorine further, destroying the pulp so that it could not make paper, and until complete chemical disintegration, then we could guarantee that it would not be infectious. If, then, there be doubt whether the paper made from some descriptions of infected rags

* Reprinted from the *Lancet*, September 30, 1871.

be infectious, what shall we say of the chances of the decomposition of infectious matter by the popular expedient of just sprinkling clothes with a little bleaching liquor? Fumigations of sick-rooms with chlorine gas are not likely to be effective, for long before the proportion of chlorine in the atmosphere could reach the point at which we could hope for any attack of infectious matter existing in the atmosphere (and certainly very long before we could guarantee any attack of the infectious matter), the smell of chlorine would have become unendurable. In fine, the actual practical employment of chlorine as a disinfectant does not rest on a sound chemical basis, and we are not warranted in assuming that any great good is done by it.

Leaving disinfectants which aim at the chemical disintegration of infectious matter, we pass on to others, the *modus operandi* of which is in dispute. Corrosive sublimate, carbolic acid, and sulphurous acid,—do they poison the germs, or are they chemically incompatible in relation to the organic poisons? We shall not discuss this question on the present occasion, but it is a fact, ascertained by experience, that these substances, in common with very many others, have some power of suspending the action of infectious matters. Of late years it has been the fashion to single out carbolic acid as pre-eminently serviceable. But Dr. Sansom, who is one of the warmest advocates of the use of carbolic acid, has shown that if we measure its activity by its power of arresting fermentation it is far behind corrosive sublimate; and if by its destructive action on low forms of animal life—on spermatozoa, infusoria, and entomostraca—it comes behind corrosive sublimate and most of the commonest acids. In short, there is no reason why carbolic acid should be so singled out, whilst its being notoriously poisonous makes it no fitter for general and popular use than corrosive sublimate.

It appears to us that, whilst possibly all may have their uses in skilled hands, for household and popular use we must avoid corrosive chemicals, poisonous substances, and bad-smelling things, and select agents which, having none of these properties, can be employed thoroughly and unsparingly. The property of deodorizing is also one which will be valued in a popular disinfectant, and since most of the common bad smells are stinking alkaloids, a great variety of substances, including all the acids, will possess this property.

In practising disinfection it has been sought either directly to influence the state of the atmosphere surrounding us, or else to operate upon the solids and liquids with which we come into relation more or less closely in the course of daily life; and if we would have definite ideas on the subject, the distinction between these two methods of operation must be kept clearly in view.

The *direct* disinfection of the general atmosphere of a town is a task too hopeless to be undertaken by man; as will be manifest from the mere consideration of the vastness of the mass of air to be dealt with, and the comparative minuteness of the materials wherewith to deal with it. Not by one-tenth per cent. can all the breathing of all the inhabitants of a town, and the burning of all the fires in it, alter either the percentage of carbonic acid or of oxygen in the general atmosphere pervading the town. If, then, our means of influencing the atmosphere are so limited that we cannot add to it so much as the one-tenth per cent. of any material, what chance should we have—even if we were to expend the entire national revenue on the undertaking—of so thoroughly dealing with the mass of the atmosphere pervading a town as to eliminate any impurity?

In the days of the cattle-plague, those who were set in authority over us made an assault of this description on the atmosphere of the country. They swept the air of the fields with towels dipped in carbolic acid, and borne aloft on the horns of the cattle, hoping thereby to rid the air of cattle-plague germs. As well might they have tried to alter the composition of the water of the Irish Sea. The first step in practical disinfection is the comprehension of the fact that, whether it be poisons or germs we fear in the out-door atmosphere, we cannot remove them from it by the employment of anything either to decompose them or to kill them.

Leaving the streets and entering the houses, one thing at least is possible, and that is, to ventilate and secure that the air within the house is not much worse than the air outside. Obviously, too, the limited air of a room lies within the compass of the action of such quantities of chemicals as we are able to command. But whether it is economical to attempt the purification of the air of a room by acting upon it by chemicals, or whether the means which are in vogue are effectual, are other questions. The last we will now take up.

We have before us a little card bearing on it the inscription, "Disinfectants, and how to use them," by Edward T. Wilson, M.B., F.R.C.P.; and among other directions are the following:—

"*For an Unoccupied Room.*—Pour two wineglassfuls of dilute sulphuric acid (oil of vitriol) over two ounces of chloride of lime in an earthenware saucer, placed high near the window. It bleaches, and is apt to make white-limed walls sweat. Useful for cabs.

"*For an Occupied Room.*—Put a crystal or two of chlorate of potash into a saucer of muriatic acid (spirit of salt) placed high, as the gas is heavier than air."

We presume that the rooms are of ordinary dimensions—say fourteen feet square and ten feet high—and for convenience of calculation

let us take the contents of a room four metres square and three metres high. This gives forty-eight cubic metres, or forty-eight thousand litres' capacity. Now, from the two ounces of bleaching powder we should do well if we got five litres of chlorine gas. We have, therefore, five volumes of chlorine in forty-eight thousand volumes of air, or about one volume of chlorine in ten thousand volumes of air; or, in percentage, 0.01. This is for the *unoccupied* room, but for the *occupied* room the proportion of chlorine (from the crystal or two) would be very small indeed.* Chlorine so highly diluted is not the energetic reagent that it is when pure. If there were traces of sulphuretted hydrogen in the atmosphere of the room, they would coexist for a long time with so weak a gaseous mixture of chlorine, and germs would probably be untouched by it. In short, such a chlorinous atmosphere, though dreadfully disagreeable to human inhabitants, might be organically impure.

The card from which we have quoted falls foul of scents. "Scents are useless," says the card, after having recommended how we may make the sick-room stinking under pretext of purifying its atmosphere. Wiser far were it to make it fragrant with perfumes, which, if they neither decomposed the organic poison nor killed the germs, would delight and not distress the patient.

In fine, if the atmosphere of a room be foul, let it out, which is the cheapest and well-nigh the only practicable, if not the only possible, method of improving it. The proper sphere of disinfectants is the solids and liquids which harm us, either by direct contact with our bodies or by their proximity to us and action on us through the atmosphere.

When we add to the atmosphere of a room a sufficient proportion of an ordinary gaseous disinfectant to act on the atmospheric impurities, we render it unfit to breathe, and fit only to be sent up the chimney. All those mixtures for generating chlorine in dishes exposed in the sick-room, all the cloths soaked in liquid disinfectants and hung up in the room, are more or less futile for the purpose for which they are intended. In this general condemnation we do not include the use of

* Some notion of the quantity of chemical substance requisite to effect a real disinfection of the atmosphere of a dwelling-room of ordinary dimensions may be gathered from a recent Oxford disinfection minute, which prescribes four ounces of sulphur to be burned in every 100 cubic feet of air. Sulphur yields twice its weight of sulphurous acid, so that there would be about eighty litres of sulphurous acid gas to 3,000 litres of air, equal to 2.6 vols. of gas in 100 vols. of air. The minute informs us that "no disinfection of this kind is thorough if a man can live in the room whilst it is going on," from which we see that it cannot be resorted to for the sake of the atmosphere in the room (which must be sent up the chimney or out of the window, and replaced by fresh air before the room becomes habitable), but for the sake of the walls and ceiling, and clothes hung up on poles, etc. In short, it is a method of treating the solids.

disinfectant cloths to block up window or doorway communicating between the sick-chamber and the rest of the house. This we regard as quite legitimate, and as helping to isolate the patient.

In the selection of disinfectants for use in the sick-room, we should prefer such as are non-volatile and destitute of smell,—such, in fact, as will not themselves defile the air. For this reason, among others, bleaching-powder and carbolic acid are not so suitable as some other disinfectants. Copperas and chloralum, possessing the requisite qualifications of being non-volatile and odorless, and being at the same time active disinfectants, are mentioned in the *Oxford Disinfection Minute*, which we have already referred to, and from which we quote the following:—

"Water-closets, privies, cesspools, and drains can be disinfected by copperas (sulphate of iron). Carbolic acid can be used with advantage with, or after, but not without copperas. A certain quantity of disinfectant will disinfect only a certain quantity of foul matter; and disinfection is imperfect till all hot smell or alkaline reaction is abolished. For the disinfection of a cubic foot of filth, half a pound of copperas dissolved in a couple of quarts of soft water is sufficient. The daily addition, by each individual using a privy or water-closet, of two-thirds of an ounce of solid copperas to such privy, or one-third of a pint of the above solution to such water-closet, will keep it wholesome, if any accumulation of filth which it may contain or communicate with has been previously disinfected according to the directions given above. Carbolic acid, which need not be chemically pure, can be used after the addition of copperas till the place smells strongly of it. It should be used in the fluid state, its combinations with lime and magnesia having an alkaline reaction, and being therefore unsuitable for the present purpose. It may be diluted by being shaken up with twenty times its volume of water, and if poured from a watering-pot with a rose-nozzle over the sides of a recently emptied privy or cesspool will do great good. Sawdust or sand strongly impregnated with carbolic acid may be used for this purpose. Chloralum (solution of chloride of aluminium of specific gravity 1160) will acidify ordinary sewage, and destroy its living organisms when added in the proportion of one part to forty. It may be expected, therefore, to act as a disinfectant. This cannot be said of chloride of lime. All water-closets and privies should, when epidemics of cholera or typhoid may be expected, be disinfected, whether they be offensive or not. It is well at such periods to avoid using any such conveniences which have not been disinfected, especially if, as at hotels and railway stations, they may have been used by persons from infected localities. All the conveniences mentioned need ventilating as much as living-rooms do."

The subordinate position of carbolic acid is noteworthy. If the experiments and researches that have been undertaken in regard to carbolic acid be reliable (*vide* Crace Calvert, in the *Chemical News* of Dec. 9th, 1870, and Dr. Ballard's remarks thereon in the same journal of Jan. 20th, 1871), then we must admit that undoubtedly carbolic and cresylic acids are about the most powerful of antiseptics; and there are few who will not admit that where carbolic acid can be used, it is the best for direct disinfection. Its odor is *the* objection against it, but still there is a very large number of cases in which the odor of the disinfectant proves no bar to its employment.

The minute also assigns a low rank as a disinfectant to chloride of lime; and here it will not be out of place to indicate the manner in which different disinfectants act on a mass of organic matter in incipient decomposition, such as fæces, urine, etc.

Copperas, chloralum, and Burnett's solution (chloride of zinc) absorb the most offensive products of decomposition, which appear to be stinking alkaloids, and in so doing deodorize; they may also act as powerful antiseptics,—that is to say, arrest putrefaction, and so prevent the production afresh of products of decomposition; but more evidence is wanted on this point. Carbolic acid does not absorb the products of putrefaction which has already taken place, but it arrests putrefaction and so stops the further production of products of decomposition. Bleaching-powder and Condy's fluid (alkaline permanganate) appear to oxidize the products of decomposition, but they have little power as antiseptics,—that is to say, they have little power of preventing the organic matter from continuing to putrefy. These latter, therefore, are not so economical as other disinfectants.

For use in cesspools and drains there is at present in the market a very cheap material, known as Cooper's salts, and consisting of a mixture of chlorides. It has considerable deodorizing power. It deserves a trial in privies and urinals, and indeed is known to answer in the latter.

Leaving the water-closets and cesspools, and returning to the sick man's chamber, the first thing demanding attention is the night-stool or bed-pan, which should be charged either with a sufficient quantity of copperas or else chloralum. We think that most persons who have tried the two will be inclined to give the preference to the latter, from its superior cleanliness, and in the form of a dry powder sufficiently cheap to be used to cover the excreta it will be found very convenient. Charcoal or sand to cover up excrement and discharges of all kinds, and these moistened with copperas solution or solution of chloralum, will also answer. But carbolic acid and bleaching-powder may be used in the sick-chamber, on an emergency, when nothing better is at

hand. Chloralum is very likely the best of the non-volatile disinfectants, but its superiority to Burnett's fluid, sulphate of iron, etc., can hardly be said to be as yet established.

The clothes worn by a patient ill with small-pox or cholera should afterwards be burnt, and, as far as possible, the bedding too. Failing this, they should be boiled for half an hour with soap and water, or else exposed to a dry heat of 250° F. In order to produce an appearance of cleanliness, bleaching-powder may be used in the subsequent washing of the linen of patients suffering from infectious diseases; but it would be injudicious to rely on that substance as a disinfectant of the linen. Finally, it should be remembered that the surface of every solid which is for a length of time exposed in a sick-room inhabited by patients suffering from infectious diseases is liable to contract a taint, and will need disinfection. The surface of the patient may even be treated, and with great advantage to himself and everybody concerned. In most cases, as is now recognized, a bath will at least do no harm, and in cases of small-pox the addition of some convenient disinfectant to the bath has been found to comfort the patient.—*London Lancet*, Sept. and Oct., 1871.

THE TREATMENT OF SYPHILIS.

Dr. Bumstead says:—My own experience with mercury in the treatment of venereal diseases leads me to conclusions which may be briefly stated as follows:—

1. Avoid mercury in all cases of chancroids, also in all doubtful cases of venereal sores following exposure, unless the failure of other remedies and the danger of destruction of important parts leaves no other resource. Such cases are extremely rare. Experience shows that even in well-marked cases of true chancre it is better to defer the administration of mercury until secondary symptoms appear. We are, however, justified in its use in case the chancre, contrary to custom, assumes a phagedenic form; in case the patient's relations, as in matrimony, demand that the sore should be speedily healed; or in case that he himself is unwilling to submit to delay.

2. Although a true chancre will heal and secondary symptoms will disappear spontaneously, especially when favored by attention to hygienic rules, yet mercury is the only known agent which has a *direct* action upon them. In tertiary syphilis the iodide of potassium alone has a remarkable effect in dissipating the symptoms for a time, but the concurrent use of mercury is of great value in preventing their return.

3. When using mercury for syphilis, use it, as the French say, *coup*

sur coup—"blow on blow." In other words, give it actively and for short periods, repeated, if necessary, rather than in small and long-continued doses. Harm is less likely to result from the former than the latter course, and another advantage is that you have the means of testing the correctness of the course you are pursuing. If the disease has progressed in spite of the first thorough trial, you are probably wrong in your indications; if it has yielded but not disappeared under the first *hit*, you can hit it again!

4. When a patient for the first time comes under treatment for syphilis, mercury is usually well borne and does its work well, given by the mouth. It may therefore be administered in this way, and the greater inconvenience of its external use be avoided. During the first mercurial course that a syphilitic patient undergoes, the remedy commonly acts more effectively and speedily upon the symptoms than in subsequent courses. In the first course, also, there is greater danger of salivation; so that a patient who at this time has had his gums made tender by the administration of mercury for a few days, may, in a second or third course, be brought under the influence of this agent with great difficulty. Hence greater caution is requisite in the early treatment of syphilis; and since the physiological influence of mercury often rapidly follows the therapeutical, it is well to suspend the treatment or diminish the dose as soon as a decided effect upon the symptoms is apparent. In old cases of syphilis, especially when mercury has already been used repeatedly or for a long period, its internal administration is found to have less effect upon the disease; and although the danger of salivation is slight, yet other ill effects of the mineral—such as irritation of the intestinal canal, loss of appetite, diarrhœa, and general cachexia—are more likely to ensue. Hence, its external use is now to be preferred to its internal.

5. For reasons already given, the corrosive chloride is the least desirable of all the preparations of mercury for internal administration. I usually employ in my own practice either the pil. hydrargyri or the proto-iodide, or sometimes the hydrargyrum cum cretâ. The proto-iodide is found to be too irritating to the bowels of some patients, and in all cases should be given half an hour or an hour after meals, and not on an empty stomach. The mercury with chalk acts mildly, but effectually, when well prepared, and is conveniently combined with quinine and put up in capsules. I most frequently, however, employ the blue mass, made into pills of two or three grains each, with the addition of one grain of the dried sulphate of iron; one pill to be given, three or four times a day, an hour after eating. These pills rarely act upon the bowels or require the addition of opium.

Of the three methods for the external use of mercury more common-

ly employed—viz.: inunction, fumigation, and hypodermic injection—I decidedly prefer the first named, for which I have given minute directions in the third edition of my treatise upon venereal diseases, page 497. Moist mercurial fumigation, so strongly recommended by Mr. Langston Parker, is indeed less repugnant to sensitive patients; but, judging from my own observation, is less efficacious and less convenient, and requires more time for each bath than most patients can well spare. Moreover, unless the patient take the baths in his own room, or the surgeon administers them at his office, they must be intrusted to one of our professional bath-givers, who, as a class, I am sorry to say, are prone to wean the patient from his medical adviser, or to fill his mind with ignorant or false notions. It is pretty generally conceded by those who have made an impartial trial of hypodermic injections in the treatment of syphilis, that this method is not to be recommended for general adoption. (See a review of this method by my partner, Dr. F. R. Sturgis, in the *American Journal of Syphilography and Dermatology*, April, 1871; also, an able article by my friend, Dr. R. W. Taylor, in the *Medical Gazette* for May 13, 1871.)

Mercurial suppositories introduced into the rectum were recommended by Lebert, *Berl. Klin. Wochenschrift*, No. 14, April, 1870. I made a trial of them recently in four cases at Charity Hospital, with results so unsatisfactory in controlling the disease that I abandoned the experiment.—*American Practitioner.*

Treatment of Syphilis by Calomel Injections.

Dr. F. Zambon (*Gazz. Méd. Ital. Prov. Venete*) relates how a patient with two gummy tumors, one in the groin, the other on the thigh, was treated by himself with injections in the middle external aspect of the left arm, by means of twenty-five centigrammes of calomel, performed three times in forty-three days. The two tumors gradually disappeared under this treatment.—*The Doctor.*

CROTON-CHLORAL.

Dr. Oscar Liebreich has lately been engaged in investigating the physiological and therapeutical properties of a new organic compound called croton-chloral, which is formed by conducting chlorine gas into allylene. A peculiar action of this new substance in animals is, that at first a high degree of anæsthesia in the head is produced, while sensibility in the other parts of the body remains intact. The second stage is, that the spinal cord loses its functions, and reflex excitability is every-

where extinguished. During that stage both pulse and respiration remain unchanged. The third stage, which is induced by large doses, is characterized by paralysis of the medulla oblongata, and death. Animals may, however, be kept alive by artificial respiration, because the function of the heart is not interfered with; while the ultimate effect of hydrate of chloral is to paralyze the heart. The first therapeutical experiments with the new compound were made in the University Clinique of Berlin. Complete anæsthesia of the fifth pair of cerebral nerves was produced in a child, reflex excitability in the other parts of the body continuing unchanged at the same time. Pulse and respiration remained exactly the same during the whole time of the narcosis. Further experiments on insane patients showed that we possess in croton-chloral a remedy by means of which the brain may be profoundly narcotized without any other functions being disturbed, while by chloral not only the brain, but the nervous system altogether, is rendered anæsthetic, and the heart's action is diminished, which must always constitute a source of danger.

Dr. Julius Althaus (who reports these investigations in the *Medical Times and Gazette*) considers, therefore, that croton-chloral promises to produce all the good effects of hydrate of chloral without any drawback being attached to its judicious use. Its apparently specific effects on the fifth pair of cerebral nerves make us indulge the hope that it may perhaps be found useful in that most intractable affection—tic douloureux.—*Chemist and Druggist*, Nov. 15.

THE ANTAGONISM BETWEEN THE ACTIONS OF PHYSOSTIGMA AND ATROPIA.

BY DR. FRASER.

In a Preliminary Note read before the Royal Society of Edinburgh, on the 31st of May 1869, a number of experiments were described, which proved that the lethal action of certain doses of physostigma can be prevented by the administration of atropia. Further, it was pointed out that antagonism between any two substances, in the sense of the lethal action of the one being preventible by the physiological action of the other, had not previously been shown to exist by any certain and satisfactory evidence. In the various instances where experiment seemed to indicate existence of such an antagonism, sufficient proof was not given that the dose of the substance whose action appeared to be antagonized was certainly a lethal one. The conflicting opinions and doubts this fallacy has given origin to, have induced the author to follow a plan whereby it may be completely avoided.

In the first place, the minimum fatal dose of physostigma for the species of animal employed was accurately determined by a number of preliminary experiments; so that the weight of the animal being ascertained, it was an easy matter to be certain of the dose that could kill it. Then, in those experiments where an animal recovered after the administration of a dose of atropia given in combination with a dose of physostigma equal to or in excess of the minimum fatal, it was killed many days afterwards, and when the effects of the two substances had completely disappeared, by a dose of physostigma equal to or less than that from which it had previously recovered. Therefore, when the administration of atropia prevented an otherwise fatal dose of physostigma from causing death, a perfect demonstration was obtained of the power of atropia to produce some physiological action or actions that counteracted some otherwise lethal action or actions of physostigma.

In the preliminary note referred to it was suggested that as both atropia and physostigma are capable of producing a number of different actions, several of which may not be mutually antagonistic, and that as both substances are capable of producing several actions of a similar kind, considerably less potent to cause death than those by which their fatal effects are usually induced, it would probably be found that a region exists where the non-antagonized and the similar actions are present in sufficient degrees of activity to be themselves able to produce fatal results. This anticipation has proved to be correct. A large number of experiments have been made, by which the region of the successful antagonism of fatal doses of physostigma has been defined with considerable exactness. The smallest and the largest doses of atropia that are able to prevent death after the administration of different fatal doses of physostigma, and the maximum fatal dose of physostigma that is capable of being rendered non-fatal by atropia were ascertained, and it was found that beyond these various points death may be produced by combined doses of the two substances, either by some non-antagonized action belonging to one or other of them, or by a combination of similar actions belonging to both.

As the above results could be obtained only by performing a very large number of experiments, rabbits were the animals selected, it being impossible to obtain a sufficient number of dogs, or other convenient animal. The weight of animal employed was, as nearly as possible, three pounds; and when below or in excess of this a correction was made, so that each dose represented three pounds weight of animal.

In one portion of this investigation experiments were performed in which physostigma was given five minutes after atropia, both substances being injected under the skin. In the first series the dose of physo-

stigma was the minimum fatal, and the doses of atropia ranged from one that was too small to prevent the lethal action of this dose of physostigma, through a number of gradually increasing doses of atropia that were able to prevent death, until a dose was found whose administration resulted in death. Similar series of experiments were made with doses of physostigma, one and a half times, twice, two and a half times, thrice, and three and a half times as large as the minimum fatal. With the minimum fatal dose of physostigma, it was found that while .01 grain of atropia is too small to prevent death, .015 grain is able to do so; and that with any dose ranging from .015 to 5.2 grains the lethal effect of this dose of physostigma may be prevented; while if the dose of atropia be 5.3 grains or more, the region of successful antagonism is left, and death occurs. With one and a half times the minimum fatal dose of physostigma, successful antagonism was produced with doses of atropia ranging from .02 grain to 4.2 grains; with twice the minimum fatal of physostigma, with doses of atropia ranging from .025 grain to 3.2 grains; with two and a half times the minimum fatal of physostigma, with doses of atropia ranging from .035 grain to 2.2 grains; with thrice the minimum fatal of physostigma, with doses of atropia ranging from .06 to 1.2 grain; and with three and a half times the minimum fatal dose of physostigma, with doses of atropia ranging from .1 grain to .2 grain. Successful antagonism could not be obtained above this dose, and, accordingly, three and a half times the minimum fatal dose of physostigma would appear to be about the largest quantity whose lethal action may be prevented by administering atropia five minutes previously.

A similar series of experiments has been made, in which physostigma was administered five minutes before atropia, and the results were essentially the same, excepting that the region of successful antagonism was found to be more limited.

Series of experiments were also made, in each of which the doses of physostigma were the same, and the doses of atropia varied; while with each dose of atropia several experiments were made which differed from each other by a difference in the interval of time between the administration of the two substances.

It seemed of interest to ascertain what dose of atropia is required to produce death with a dose of physostigma below the minimum fatal. The experiments performed for this purpose show that when one-half of the minimum fatal dose of physostigma is given five minutes after atropia, so large a dose of the latter substance as 9.8 grains is required in order to cause death; recovery taking place with doses ranging from 3 to 9.5 grains.

The minimum fatal dose of sulphate of atropia given alone was found

to be 21 grains for a rabbit weighing 3 pounds. It is, therefore, remarkable that the $\frac{3}{200}$ of a grain can prevent a dose of physostigma, equal to the minimum fatal, from causing death, and that the $\frac{1}{10}$ of a grain is capable of rendering non-fatal a dose of physostigma equal to three and a half times the minimum fatal.

Excepting dilatation of the pupils, these minute doses of atropia, and, indeed, any dose capable of antagonizing the lethal action of physostigma, are unable to produce any symptom recognizable by a mere inspection of the animal. Still, they undoubtedly produced energetic physiological effects—effects, however, which it is unnecessary to describe in this brief abstract. It is sufficient to point out that the notion which exists in many quarters, that rabbits can scarcely be affected by atropia, is an erroneous one.

Without referring to the other results obtained in his investigation, the author pointed out, in conclusion, that unless the antagonism between any two active substances be examined in the manner indicated in this communication, no satisfactory proof of its existence can be obtained. The superficial area of the region should always be defined, otherwise indications of antagonism obtained by one observer will be liable to be discredited by those who subsequently examine the subject. The first observer may succeed in performing an experiment within the area of successful antagonism, and thus feel satisfied of its existence; but his successors may fail in obtaining any proof by so varying the dose of one or other substance as to pass the limits of the region of success. Feeling assured that many examples of successful antagonism, besides the one he had the honor of bringing before the Society, will yet be discovered, the author could not avoid the conclusion that the imperfect methods of investigation hitherto pursued are accountable for the absence of success that has attended the numerous researches made on this subject—a subject, it need scarcely be added, of the greatest importance to toxicology and to scientific therapeutics.—*Abstract of paper read before the Royal Society. Edinburgh Medical Journal.*

ON THE THERAPEUTIC VALUE OF NITRITE OF AMYL.

BY H. C. WOOD, JR., M.D.

It will be remembered that the conclusions arrived at in my paper upon the nitrite of amyl, which was published in the last number of this Journal, were, that in its action on animals it is an almost universal sedative, impairing the power of muscular fibre to contract, and the nerve to carry the motor impulse; lessening the reflex excitability of

the spine, etc., and acting similarly, though much more feebly, on the centres of sensation and consciousness. As regards the circulation, its uniform action was to lessen arterial blood-pressure, although at first this diminution of force in the circulation is associated, at least in the dog, with a wildly excited action of the heart, without loss, and possibly even with gain, of power in the individual heart-beat; in a little while, however, the heart itself manifests very plainly the sedative influence. It was further shown that the nitrite of amyl catalytically arrests oxidation.

These views are apparently not in accordance with the theories of some previous writers, that the nitrite acts upon man as a powerful stimulant. The systems chiefly affected, *i.e.*, motor and circulatory, are so consonant in their functions throughout the higher vertebrates, as to render it inconceivable that a drug which acted as a uniform depressant upon the lower animal should be a stimulant to man. Fortunately there have not been as yet any cases of human poisoning by the drug, and no one in experimenting upon man, that I know of, has as yet carried the effect far enough to produce serious spinal symptoms. Strychnia, woorara, calabar bean, etc., affect the motor apparatus of man as they do that of the dog; and there is no reason for believing that the nitrite of amyl differs from them in this respect. In a case of Dr. Da Costa's, the remedy which he had used with good effect was administered too freely during his absence from the city, by another physician, and produced alarming general prostration; the evidence, as far as it goes, therefore favors the view so strongly commended by *à priori* reasoning.

The most prominent symptoms induced when the nitrite of amyl is inhaled by a man in moderate quantities, are a sense of great fulness and distention of the head, amounting at last to severe pain, and accompanied by intense flushing of the face, a deep, labored respiration, and an exceedingly rapid, violent action of the heart.

It is these latter symptoms which have been looked upon as demonstrating that nitrite of amyl is a direct vascular stimulant. I think, however, they have a different significance. The sensations in the head and flushing of the face are evidently explainable as being the results of the dilatation of the capillaries. The excited, violently labored action of the heart is no indication of increased arterial blood pressure, since it is precisely what is seen in the dog under similar circumstances, associated with lessened arterial pressure. If the windpipe of a man or animal be suddenly compressed, the same violent respiratory efforts and the same wild tumultuous action of the heart result, and, I believe, from the same cause. When the nitrite is taken into the lungs it instantly arrests or diminishes oxidation, and a thrill of impending

suffocation runs through the system, in obedience to which the respiratory and circulatory organs gather up and exert to the utmost their forces. The central impulse sent to the cardiac and respiratory muscles is at first much more than sufficient to overcome any direct action of the nitrite upon them, but the inhalation being persisted, in the impulse is constantly growing weaker, and the direct influence of the drug stronger, so that there soon comes a time when the reverse is true, and the heart's power is more or less nearly extinguished. Any one reading the account of the experiments previously given, can note this as true in regard to the dog, and some who have administered the remedy to man with a little too great boldness have been sorely frightened and puzzled by the same phenomenon. This loss of power comes on too quickly, is too great and progressive, and is too clearly connected with the presence of a certain amount of the nitrite in the system to be explained as a mere secondary depression from over-stimulation. Those who have watched the steady whirr of the heart in a case of atropia poisoning, know how it often takes hours of intense action to exhaust the viscus. Nor is the loss of heart-power at all comparable to the deadly paralysis sometimes produced by chloroform. It comes on gradually, rapidly to be sure, but still by degrees, and not abruptly, and, as before hinted at, is always proportional to the dose. For these reasons, I do not see how the phenomenon can be explained otherwise than above, and believe it fairly demonstrated that nitrite of amyl acts upon man precisely as upon the lower animals. A recent writer in the *London Practitioner* deems the fact that the nitrite relieves the paroxysms of angina pectoris sufficient to prove that it is a stimulant. The truth is, we have no positive knowledge of the real nature of the disease alluded to. How futile then to attempt to explain the physiological action of a medicine by its effect upon it. This attempting to study physiologically a not understood medicine by its influence upon a not understood pathological condition, is unfortunately not new in medical annals; to complete its absurdity is only needed the common practice of explaining also the disease by the influence of the medicine upon it. Surely this reading the unknown by the unknown resembles the youthful gambols of a kitten in pursuit of its tail—a circle of useless labor.

The question now arises, of what practical value is the nitrite of amyl? Its peculiar physiological power of checking oxidation and lowering temperature suggests its use in fevers, when it is desirable to lessen the rapidity of the tissue changes. Its action upon the nervous and circulatory systems would, however, very possibly, do more harm in a low fever than its other powers would do good. I have, however, no clinical evidence to offer, and therefore the matter must be left as

a simple suggestion. There is one disease in which, theoretically, it ought to be of great value, *i.e.*, tetanus. There is scarcely any doubt but that there exists in that affection a condition of exalted functional activity of the reflex motor centres, and of these centres the nitrite is a powerful depressant. Moreover, in many cases of tetanus there is an enormous rise in the activity of oxidation, and, consequently, of temperature of the body, so that the nitrite would meet a second indication. Clinical evidence also is not altogether wanting, and although not enough to warrant any conclusion, is sufficient to encourage further trials.

Two cases of recovery from tetanus are reported in the *Lancet* of the present year (vol. i. p. 572), one of which was treated by nitrite of amyl alone, the other by it and chloral. I am under the impression that another successful case has been reported, but cannot refer to it.

There is one fearfully painful affection, namely, angina pectoris, in which a considerable amount of clinical evidence shows the nitrite of amyl to be of very great value. Quite a number of cases have been reported, in which the inhalation has been of very great service in affording rapid and permanent relief. Nor are these cases limited to true angina pectoris, in which there is no evident organic cardiac disease; on the contrary, many of the patients have been sufferers from very well marked valvular disease. Among the cases reported the following may be cited, the reporter's name and journal being alone given: Brunton, *London Lancet*, 1869, and *Medical Times and Gazette*, 1870; Leishmann, *Glasgow Medical Journal*, August, 1869; Haddon, *Edinburgh Medical Journal*, 1870; Anstie, Thompson, *Medical Times and Gazette*, 1870; also, *Clinical Society's Transactions*, vol. iii.

I have had an opportunity of using the nitrite in one case of severe suffering connected with valvular disease, and the effect in relieving the heart-pang after the failure of other remedies was astonishing. The following *résumé* of the case is offered:—

H. D., colored; female; æt. 21; sick in Philadelphia Hospital with chronic pneumonia and heart symptoms, believed to depend upon chronic mitral disease. There was slight increase of cardiac dulness, with a soft but loud systolic murmur, loudest at the apex, but audible at the base, and very distinct between the shoulders.

Feb. 20.—Commenced to suffer with paroxysms of severe pain in the region of the heart, with suffocative feeling; chiefly complained of a griping sensation, as if some one was holding and choking her in the cardiac region. She stated that she was in agony, and appeared to suffer violent pain. Various remedies were used without decided relief; I copy now from my note-book.

March 2*d.*—Suffered from anginoise attack last night; during a "spell" this morning was allowed to inhale nitrite of amyl very cautiously, with apparently marked relief and shortening of paroxysm. 3 P.M.—Found by Dr. McCoy, resident physician, suffering from a severe spell. He reports: "Her pulse was 34 in a quarter of a

minute. Five gtt. of the nitrite were placed upon a handkerchief and held over her nostrils. In second quarter of a minute pulse rose to 40; third quarter, 39, and Dr. Bullard, of Brooklyn, who was present, said 'weaker.' In a minute she appeared easy, reclining on a pillow (during paroxysm she always sat up bent forward), and soon after she said her pain was gone."

3d.—Had a very severe spell, during which she was seen by Dr. Murray (resident physician), who reports: "Found her suffering great agony; gave by inhalation 5 gtt. of the nitrite of amyl; pulse 37 in the quarter of a minute preceding inhalation; same for the three quarters after giving the medicine; she appeared easy in half a minute; could not answer questions as to how she was for a minute after; heart agony instantly stopped."

6th. Had a paroxysm during my visit; pulse 110; 5 gtt. of the nitrite on a handkerchief held at a little distance from her nostrils; 1 minute, says she is somewhat relieved; pulse 110; 2 minutes, 5 gtt. more put on handkerchief and held close to nose; 3 minutes, says she is completely relieved.

15th. Has had several spells since last entry, all of them at once controlled by the nitrite. They have been gradually occurring at longer intervals, and have now apparently ceased.

20th. Had no more spells.

In regard to the method of administration, I am not aware that the nitrite has been given otherwise than by inhalation. Its totally insoluble and highly volatile nature renders it unfit for exhibition either in solution or mixture; but I do not see why it could not be given dropped upon a piece of sugar. In cases of tetanus it seems plausible that the remedy would be more efficient if given by the stomach in frequent small doses. When it is to be inhaled, five drops should be placed upon a handkerchief and held close to the nostrils, the pulse being closely watched and taken as a guide for the continuance or withdrawal of the drug. If necessary the dose should be repeated. When giving it by the stomach I do not think it would be safe to start with more than two drops until the effects of the medicine so administered have been more studied than at present. Nitrite of amyl is without doubt a powerful agent in its action on the economy, and yet my experience with it on animals would seem to show that with proper care and a due understanding of its physiological action it is a safe remedy. By this is meant that it does not act unexpectedly and out of proportion to the dose. I have never seen indications of anything such as constantly happens in the use of chloroform upon dogs, sudden arrest of the heart's action, unexpected death, the mysterious production of symptoms apparently out of proportion to the amount given. On the other hand, I have frequently been astonished at the ease with which very serious symptoms have been shaken off, the animal reacting rapidly from a condition on the very border lines of death.—*American Journal of Med. Scien.*, October, 1871.

NITRITE OF AMYL IN THE COLLAPSE AND CRAMPS OF CHOLERA, AND IN ASTHMA.

Dr. Talford Jones has a paper in the *British Medical Journal* of Sept. 30 on this subject, in which he advances and supports the following propositions:—

1. That the collapse of cholera is due to impediments to the circulation of blood through the lungs, and that this impediment is due to the contraction of the muscular fibres of the pulmonary artery.

2. That the cramps of cholera are due to a like spasm or contraction of voluntary and involuntary muscular fibre in other parts of the body.

3. That nitrite of amyl has the power of producing relaxation of muscular spasm and arterial dilatation.

4. That in many cases there is a considerable resemblance between cholera collapse and asthmatic collapse.

5. That nitrite of amyl is a remedy giving instant relief in asthmatic collapse.

Of this paper we condense only the proof of the last proposition.

Dr. Jones was called, October 23, to a young married woman suffering from asthma, and found her sitting on the bed, holding to the bedpost. Her surface was of a dusky leaden hue, bedewed with sweat, and cold, especially the feet and hands, which were icy. Her pulse could hardly be felt, and she was making the most violent efforts to breathe. She could not speak, only making a few faint gasps.

Five drops of the nitrite were applied to her nostrils on a piece of lint. In a minute her face was deeply flushed, her heart palpitating, carotids beating, surface warm, respiration easy, and she was able to converse. A return of the asthma the next night was instantly cut short by a respiration of the amyl.

STRANGULATED HERNIA—PUNCTURE OF INTESTINES —CURE.

BY DR. DIEULAFOY.

There was lately reported in the *Gazette Hebdomadaire* a case in which Prof. Delpeau made subcutaneous pneumatic puncture into the intestine of a strangulated hernia in a far advanced case of heart disease. The immediate object was obtained, but the man died shortly afterwards from the heart trouble, and the tunic of the intestine was found to be entire.

M. Nélaton has condemned the puncture of the intestines in strangu-

lated hernia, saying that if it were large enough to allow anything to escape, fluid would, after reduction, escape into the abdominal cavity. But with the aspirateur this danger is avoided. The doctor reports the following case as successful:—

M. G., æt. 82, suffering from hernia, the result of the severe cough produced by pulmonary catarrh. The 30th of July the tumor became irreducible. Repeated efforts at reduction, both with and without chloroform, were made until August 3, on the morning of which day the patient complained of severe pain, radiating from inguinal canal, all over the abdomen, which was slightly tympanitic and tender. There was also dry tongue, constant thirst, incessant but not fecal vomiting, absolute constipation. Pulse 86; feeble, intermittent. The forces of the system were a good deal exhausted, and the extremities cold. The tumor, the size of an egg, was at the bottom of the scrotum, very hard, evidently containing gas and liquid. The skin was of natural color over it. The diagnosis was considered certain that there was an enterocele. After vain efforts at reduction an aspirateur of 45 grammes contents, modelled by Charrière, was used. The needle No. 2 was introduced into the most prominent part of the tumor, and a primary aspiration practised, which drew out nothing but gas. The needle having been left in place, the syringe was reattached, and about a tablespoonful of brown liquid fecal matter was drawn out. A third aspiration yielded about the same amount of the latter. Reduction was now easy. After its performance a free dose of opium was administered. The relief was immediate; no bad symptoms followed, and the same evening the patient had a free spontaneous passage from his bowels.

ABDOMINAL PUNCTURE IN TYMPANITES.

Mr. John McBride, Lecturer on Veterinary Medicine and Surgery in the Royal Agricultural College, Cirencester, in the *British Medical Journal* of Nov. 4, 1871, states that it is a mistake that the intestines of the ox are customarily opened by veterinary surgeons for the relief of tympanites. It is the rumen or first stomach only which is ever opened. Puncture of the colon has been tried in the horse, but without success, peritonitis generally following. In the same number of the journal Dr. Braxton Hicks gives a reference (*Obstetrical Transactions*, 1869) to four cases of puncture of the intestines in the human subject, performed by himself.

Dr. G. D. Brown also details the case of a boy, aged 3 years, supposed to be sinking rapidly, and in great pain from tympanitic distention,

believed to be dependent upon tubercular peritonitis. A small trocar was inserted, and a good deal of fetid air with a drop or two of pus escaped. This giving relief, the operation was repeated in a few days, when a reaccumulation had taken place. To the surprise of all, the child recovered, and remained well for sixteen months, at the end of which time he died of whooping-cough and bronchitis.

Dr. Piorry read a paper before the French Academy, Nov. 14, in which he arrived at the conclusion that puncture of the intestines for the relief of tympany was a very dangerous procedure, only to be practised when the distention threatened death and other measures had failed.—*Revue de Thérap. Medico-Chirurg.*, Dec. 1, 1871.

TREATMENT OF INTESTINAL OCCLUSION BY FORCED INJECTION.

This powerful means of treatment, says M. J. Roux, has a variable action, according to the seat, age, and the nature of the occlusion. It offers a chance of success, especially when the occlusion is due to a mass of hard matters or to a lesion of the large intestine, this lesion not consisting either in organic stricture or strangulated hernia. The invagination, the torsion, and especially the Siliac, and certain hernias recently strangled or obstructed, are victoriously combated. In case of failure the injection, if well done, does not increase the danger. The procedure consists in the injection by the rectum of a great quantity (many litres) of cold water. The injection must be made slowly and gradually, so as not to tear the coats of the intestine in case of softening. The water acts mechanically by its mass, and as a stimulant to the intestine by its temperature.

Dr. Isuard gave to M. J. Roux the following outlines of a case:—

A female, 19 years of age, was seized with metroperitonitis, with symptoms of intestinal obstruction, twenty days after a natural delivery, followed by intense constipation. Purgatives having been used without relieving the patient, 5 to 6 litres of cold water were thrown into the intestine in a steady current, with perfect relief to all the serious symptoms.—*Marseilles Medical.*

ON THE ACTION OF PURGATIVES, ESPECIALLY SULPHATE OF MAGNESIA.

Dr. Armand Moreau read at the Séance of the French Academy of Sept. 12, 1871, a note with the above title. I described, he said,

in the Séance of July 5, 1870, some experiments which illustrated very nicely the action of purgatives upon the intestine. I made this publication in reply to a theory formulated in Germany (Bois-Reymond's Archives, April, 1870). I now again discuss the theory, with new experiments. One point which it is important to fix in the beginning is, that the experiments do not contradict one another. The German authors whom I cited in my first communication believe that the purgatives do not act by producing new secretion, but by increasing the peristaltic action and sweeping out of the intestines the liquids already therein.

I obtained a considerable quantity of liquid in a fold of the intestine by placing there some cubic centimetres of a 6½ per cent. solution of sulphate of magnesia, and obtained the same positive results in acting according to the method prescribed by the German authorities, as well as in varying these conditions. Thus, a fold of the intestine isolated according to their manner furnished an abundant quantity of liquid, if I put the purgative solution in the same day as the operation, or had done the latter some days previously. These are positive results; the following negative. A fold of the intestine which had received the ordinary purgative solution did not distinctly react if this solution did not remain a sufficient length of time. Thus, the solution put in the intestine having been withdrawn after remaining only ten minutes, the fold was found empty many hours afterwards. Likewise, if I had acted on the intestine, isolating a fold precisely in the German method, I found that many days after the operation, the dog being well cured, the fold was only obliterated in appearance; the injected solution passed directly into the peritonæum without causing any trouble. This is still a negative result which I obtained under those conditions. I have taken care, in order to have a contrary result, to place a ligature at both ends of the fold.

Lastly, it would appear as though an isolated fold of the intestine is in an abnormal condition, and would not act like a normal fold. The fold of intestine having undergone atrophy would necessitate a negative solution.

In resuming, the experiments do not contradict one another; they are only different when important conditions are different, and the theories of the German authors are false, because unwittingly they had suppressed some of the essential conditions of the problem.

Experiment.—I operated on a dog, August 29, 1871, according to the method of MM. Thiry and S. Radjijewski. The dog, in a good state of health, is 8 days afterward anæsthetized; the wound reopened; a ligature is placed at each extremity of the fold, into which 20 c.c. of a 6½ per cent. solution of sulphate of magnesia is injected; 24 hours afterwards the fold contained 198 c.c. of liquid.

On the 23d of August I operated on a dog in the same manner; 17 days afterwards 20 c.c. of the purgative solution were injected into the intestinal fold; 16 hours after, the fold contained 180 c.c. of liquid.

The following experiments were especially made to investigate the negative results:—

May 18, 1810, I exposed in a dog a portion of intestine, upon which I placed a tight ligature, and below it a temporary one, and, elevating the fold, injected 20 c.c. of ordinary purgative solution. The solution remained in contact with the mucous membrane for 10 minutes, and I then allowed it to run into the lower bowel, then tightened the lower ligature; 19 hours afterwards the animal was examined; it had been purged, but the fold of the intestine was empty.—*Gazette Médicale.*

ON THE PHYSIOLOGICAL ACTION* OF CRYSTALLIZED ACONITINE.

At a meeting of the Parisian Academy of Sciences, M. Cl. Bernard presented the results of some experiments made by MM. Gréhaul and Duquesnel upon the action of crystalline aconitine. These observers injected under the skin of a frog one-twentieth of a milligramme.

In thirty minutes the sciatic nerve of the animal had totally lost its motricity, so that when an induced current was passed through it no contraction of the muscles was produced. On opening the thorax the heart was found to be beating regularly.

Two hind legs of a frog were so prepared that in one the hanging nerve could be dipped in a solution of aconitine (one-fifth millig. to cubic centim.), in the other the muscle could be placed in the solution, the nerve being left free. After a time it was found that an induced current through the nerve of the former failed to excite muscular contractility, whilst in the latter it did so—showing that conducting power of the nerve is destroyed by aconitine, and the contractile power of the muscle itself is not affected. Again, the circulation being arrested in the hind legs of a frog, the latter is poisoned. All the nerves soon lose their excitability, except the nerve in the leg whose circulation has been stopped.

It is very evident that sensibility is preserved so long as the condition of the motor nerves allows reflex action. These experiments are believed to show that crystalline aconitine acts like curara in destroying the conducting power of the nerves. In another experiment it was found that after a very large dose (one milligramme) a frog preserved for a very long time the excitability of its motor nerves, and

* For Chemistry, see Materia Medica.

executed both spontaneous and convulsive movements. On opening the thorax the motion of the ventricles was found to be completely arrested. The explanation immediately suggested itself that the large dose had arrested the heart's action, and stopped the circulation, and therefore had not been carried to the extremities. This supposition was confirmed by placing a frog so that the interdigital circulation could be watched with the microscope, and then injecting a milligramme of the alkaloid. In a minute the circulation had become very feeble; in three minutes it had ceased altogether. The motricity of the bronchial plexus was then found to have suffered very much; that of the sciatic nerves to be nearly untouched.

In mammals it was found that crystalline aconitine does not affect the muscle, but does the conducting power of the nerves.—*L'Union Pharmaceutique*, August, 1871.

ON THE HÆMOSTATIC PROPERTIES OF ALNUS INCANA.

In the *Canada Lancet* for October, 1871, is a paper with the above title by Dr. T. R. Dupuis. After giving a botanical description of the plant he says:—

The taste of the bark is sweetish, inclining to bitter; has a rough feeling in the mouth when chewed, possesses some astringency, and affects the fauces with a slightly acrid sensation. It imparts a reddish color to the saliva, and both the recent bark and the stick from which it has been peeled very soon acquire a red color by exposure to the air.

I am not aware that any thorough chemical examination of the constituents of this bark has been made. It contains both tannic and gallic acids, the latter probably in greater abundance, besides volatile oil, fixed oil, resin, coloring matter, and other constituents peculiar to the plant. The precipitates thrown down by the ferric salts from the infusion, decotion, alcoholic and ethereal tinctures, have a *greenish* black color, similar to those from tea, sumach, catechu, and some other vegetables.

Very little seems to be known of its medical properties. It is, doubtless, astringent, somewhat stimulating to the stomach, and perhaps tonic; but its *hæmostatic* property is to me its most characteristic one, and that with which I am best acquainted. I have prescribed the bark both externally and internally, and have never observed any ill effects follow its use, except occasionally nausea and vomiting when drunk too freely.

My attention was first called to the *hæmostatic* properties of this sub-

stance when I was a lad, by seeing it used in this way among horse-farriers and in domestic practice. The following cases, in which it appears to have been used with advantage, I have noted from among several others which have occurred during a practice of twelve years. I have also prescribed it in hæmoptysis and in menorrhagia with benefit; and I consider it well adapted to any internal or external passive hemorrhages in which astringents are generally esteemed beneficial; for beyond its merely astringent action, I conceive that it has a power over bleeding vessels possessed by few other substances, either vegetable or mineral. And, though its action on the various organs differs from such medicines as matico, gallic acid, oak bark, uva ursi, etc., it may, without doubt, be prescribed with equal or greater advantage in many cases where these are used.

Dr. Dupuis then describes some cases in which he used the remedy externally.

Case II. was in a boy aged 13, suffering from profuse epistaxis, which had lasted thirty hours in spite of vigorous treatment. The notes are:—

He was then so much exhausted as to be in a state of almost constant syncope, and was considered hopeless. I wanted to try the alder bark before attempting to plug the posterior nares; so I immediately prepared a decoction, and soaking pledgets of cotton wool in it, pushed them as far back into the nostrils as possible, and then kept them wet with it by tilting back the head and pouring the liquid into his nostrils with a teaspoon from time to time. In a surprisingly short time hemorrhage ceased; there were no symptoms of a return.

FACTS RELATIVE TO PHYSIOLOGICAL ACTION OF BELLADONNA AND OPIUM.

Under the above caption M. Colton, pharmacien à Lyon, publishes a paper (*L'Union Pharmaceutique*, August, 1871) in which he states the results of his experiments are opposed to the idea of there being an antagonism in these drugs. His experiments were made by plunging frogs, as near alike as possible in all respects, into distilled water containing in variable quantities the extracts of opium or of belladonna, or a mixture of the two. The following table exhibits the results:—

Aqueous extract of opium.	oz. 5	The frog became somnolent, and died at the end of—	48 hrs.	In slight convulsions.
	oz. 10	The frog became somnolent, and died at the end of—	37 hrs.	Without convulsions to the moment when I put it in ordinary water.
	oz. 10	The frog became somnolent. At about 48 hours I put him back into ordinary water. He swam with difficulty at first, but in 36 hours had recovered entirely.		
	oz. 20	Is less sleepy than in previous case; died at the end of—	12 hrs.	In convulsions more strong than the first.

Aqueous extract of opium, aqueous extract of belladonna, āā.	oz. 5 oz. 10	Appeared at first not to be influenced, but died at the end of—	35 hrs.	In violent convulsions.
	oz. 10 oz. 10	Remained torpid from the beginning, then recovered his vigor, and died at the end of—	24 hrs.	In violent convulsions.
	oz. 10 oz. 10	Remained torpid from the beginning, then recovered his vigor, and died at the end of—	18 hrs.	In violent convulsions.
Aqueous extract of belladonna.	oz. 5	Did not appear to be influenced, or to lose his vigor in 3 days. When he was put in fresh water seemingly as usual.		
	oz. 10	Remained some time somnolent, then seemed to recover some. At end of 48 hours he was put in water, and after 2 hours had regained his usual appearance.		
	oz. 20	Remained very torpid, then seemed to awaken. At the end of 48 hours was put in water; he swam in a disorderly manner, but 12 hours afterwards seemed to be in his normal state.		

M. Colton afterwards states that some of his experiments seem to indicate that belladonna and opium, given one after the other, cause mutual elimination and thus simulate counter-poisons.

THE TREATMENT OF SMALL-POX.

Dr. Alexander Collie, the resident medical officer at the Homerton Fever Hospital, says that treatment in the mild variety of variola is unnecessary, and in the black small-pox useless. In the confluent form, however, treatment is of the greatest importance, and the result of the case will sometimes be determined by it. The room in which the patient is placed should be thoroughly ventilated, the windows being kept open even in winter. If possible, there should be two beds in his room, in order that he may be changed from one to the other. He should be allowed a highly nutritious diet, consisting of milk, beef-tea, eggs beaten up with whiskey, tapioca. Cold water will be found most efficacious in relieving thirst, and the prejudice of the patient's friends should not be allowed to interfere with its administration. Effervescing drinks and lemonade may also be allowed. For heat of skin the patient may be sponged with cold water two or three times daily. If there be much restlessness or sleeplessness, the following, repeated in half an hour if needed, will be found of great service: Tincture of opium, 15 minims; spirit of ether, 15 minims; camphor water, 1 ounce; and if this fails stimulants may be given. For the soreness of throat, oleaginous or mucilaginous drinks may be given, and the following has also been found beneficial: Tincture of iron and glycerine, of

each 39 minims three times a day. If laryngitis occur, a large linseed poultice should be applied round the throat, and the temperature of the room should be raised, and rendered moist by means of steam. All depressing remedies should be avoided, and tracheotomy should be performed whenever there is much interference with the respiration. If the patient becomes delirious, it is of the utmost importance that he should be treated with patience, gentleness, and firmness, and that no measures of restraint should be employed. Nothing has been found absolutely preventive of pitting. Common olive-oil may be used for this purpose in preference to applications which are more or less irritating. If diarrhœa occur, a mixture containing laudanum and sulphuric acid may be given.

In regard to the time when a small-pox patient may be considered free of danger to his neighbors, Dr. Collie says that this cannot be until all the products of disease are removed from his body, and until he presents all the ordinary indications of health, such as a normal temperature, a quiet pulse, a clean tongue, a clear mind, etc.—*Philadelphia Medical Times.*

PITTING IN SMALL-POX.

In regard to the very numerous methods for preventing small-pox pitting, the truth appears to be that none is thoroughly effective and to be relied on, but that anything which excludes thoroughly the light and air will have a certain amount of influence in lessening the chances of sev re disfigurements.

Dr. Rendle, in the London *Practitioner* of October, writes as follows:—He says, "I have now two cases convalescent from small-pox, in which I applied cotton wool to protect the face. The disease in each case was of the distinct form. One of the two, a girl, aged fifteen years, had an abundant eruption, which, in the unprotected parts of the body, went through the usual consecutive changes. In both cases the parts covered with the wool are left without a vestige of marks. The mode of application is as follows: On the first appearance of the eruption, patches of skin, about an inch square, were washed over with collodion, and immediately covered over with a thin uniform layer of fine wool; the wool readily adheres if applied before the ether of the collodion evaporates. When the whole of the face, etc., was thus covered, the wool was brushed over with a solution of starch or gum. The starch or gum was occasionally reapplied to the edges of the wool, to prevent any shifting by the movements of the face. This covering was kept on until the dry crust fell off the other parts of the body."

SOME OF THE ILL EFFECTS OF BROMIDE OF POTASSIUM.

Under this heading Mr. T. O. Wood, Medical Superintendent of Dunston Lodge Asylum, publishes a paper, with cases, in the *British Medical Journal* of October 14, 1871, in which, *inter alia*, he says its most dangerous effect is when, after a course of comparatively small doses, which do not seem to be taking any great hold of the system generally, or upon the mental symptoms, to control which it is given, it suddenly, and without apparent cause or warning, displays its cumulative effects, and rapidly reduces the patient to a condition of great bodily prostration, and completely alters the character of the mental symptoms. The physical prostration is at once evident. There is great muscular debility; dimness of sight, with dilated pupils; irregular gait, the patient reeling as though intoxicated; whilst nausea, vomiting, or purging, with abdominal pain of a low aching character, may also be present, the breath having a peculiar disagreeable odor. Its effects upon the mental symptoms are no less marked. The patient, who was excited, glorying in his imaginary powers of body and mind, becomes despondent, sullen, melancholy, and frequently lachrymose, often even despairing.

In a previous number of the same journal are cases reported by Witlow Bovis, L.R.C.P., and Dr. R. W. Foss, bearing out these statements, except in regard to the suddenness of the symptoms.

PHYSIOLOGICAL ACTION OF CONIA.

The Russian *Archiv für Gerichtliche Med.* has published an account of a number of experiments on man and the inferior animals, made by Dr. Verigo, with a view to determine the physiological action of conia. The results are as follows:—

1. Conia acts most strongly upon the spinal cord, affecting especially the motor nerve-fibres. 2. This action is exhibited in frogs by the phenomenon of paralysis, without any trace of convulsion, whatever the dose of the poison. In mammals, on the other hand, the most violent convulsions occur after large (lethal) doses of the poison, whilst after small or non-lethal doses paralysis of the extremities only occurs. 3. The phenomena of paralysis proceed from the spinal cord to the peripheral system of the motor nerves, which, therefore, first become affected after the cord itself. 4. The brain appears to be but little affected by conia. 5. The sensory nerves are scarcely at all affected. 6. Administered in small doses, conia retards respiration, and in large doses may altogether paralyze the respiratory acts, which depend not,

as Kölliker supposed, upon an affection of the peripheral nerves, but upon paralysis of the spinal cord. 7. The convulsions produced in mammals by conia form a tolerably certain indication of the fatal issue of the case in which it has been administered. They constitute a symptom of the poisonous action of the drug, and do not depend upon paralysis of the respiration. 8. The blood does not appear to undergo any alteration, the corpuscles at any rate retaining their capability of absorbing oxygen. 9. Conia exhibits no action upon the heart or upon the pulse. 10. It depresses the temperature of the body, and to a greater extent the more distinctly the paretic symptoms are produced. Its action on the pupil is not constant. 11. The action of conia is more strongly and more rapidly expressed when it is injected directly into the veins, more feebly when it is injected into the stomach, or subcutaneously injected. In the two latter cases the action is identical. 12. Conia has no influence on the quality or the quantity of the urine. 13. When applied externally it only produces slight itching and redness. 14. Post-mortem examination shows no appearances characteristic of poisoning with this drug.—*The Doctor*, Oct. 1, 1871.

IPECACUANHA USED AS AN INJECTION IN DYSENTERY.

In the India *Medical Gazette* of July 1, Surgeon Chas. M. Jessop, 4th Hussars, states that he has been very successful in the following method of treating dysentery. He gives as an enema ten grains of the powder, with half a drachm of laudanum, in two ounces of arrow-root mucilage three times a day until the symptoms abate. The patient is also kept absolutely at rest in bed, and milk diet and bland drinks only allowed, with sometimes a dose of castor-oil, tincture of rhubarb, or senna, in drachm doses, with a few drops of laudanum first. He rarely applies leeches to the anus, but prefers fomentations of steam or hot water to the stomach and arms, the parts fomented having been insulated with an oleaginous fluid to prevent catching cold. The ipecacuanha is valuable in direct proportion to the lowness of the part affected, and acts very quickly in rectal dysentery. He insists that no patient should be allowed to get up until the stools are natural in color, and the entire disuse of tobacco should be rigidly enforced both in the acute and chronic form of the disease.

THE USE OF COLD ABLUTIONS IN FEVER.

Dr. Lambert, in the *Jour. de Med. de Bord. et Ann. Univ. de Med.*, arrives at the following conclusions:—

1. They are especially useful in typhoid and the eruptive fevers, and are strongly indicated in malignant cases.

2. They act upon the chief and most constant phenomena of these diseases, and are especially antifebrile, reducing the temperature 1.5° to 3° Cent.

3. They favor the re-establishment of a full, profound, regular respiration.

4. They favor the peripheral circulation by the strong rhythmical contractions of the small vessels, which they produce in a reflex manner.

5. They render more active the secretions.

6. They make the skin supple, moist, and fresh.

7. They favor the outcoming of the eruption.

8. They calm cerebral and other nervous excitement, suppressing headache, coma, delirium, restlessness, and causing sleep.

9. They cause the pulse to fall 8 to 30 beats.

10. Their action persists from two to eight hours, and they ought to be repeated two to four times in the twenty-four hours.

11. They have no influence upon the length of the sickness, but render it milder.

12. They are not disagreeable; are readily applied either as cold baths, or by wrapping the patient in a cold wet sheet.—*Revue de Thérap. Medico-Chirurg.*, Sept. 1, 1871.

TREATMENT OF CARBUNCLES.

Carbuncles are most safely, humanely, and more regularly treated as follows:—

Introduce the canula of a hypodermic syringe into the centre of the tumor, draw out the piston, and with it will come pus, if any be present. The syringe is to be removed from the canula and emptied, the canula left in and the syringe replaced to the canula again, and the piston withdrawn as before, as long as pus follows. When all the pus is out, withdraw the canula and apply on the tumor, externally, with a brush, the following:—

℞ Collodion ..... ʒ i.
Castor-oil ..... gtts. xx.
Carbolic acid ..... grs. v.
Tannin ..... ℈ i.

Mix. Several applications are to be made, one after the other, so that a good outer covering is obtained at once. If the patient is weak, give him tr. iron, 20 drops, every four hours; also,

℞ Fl. ext. Peruvian bark.....gtts. xx.
Spts. ammon., arom.....grs. xx.
Infusion gentian..... ℥ i.

Mix. Repeat as often as deemed advisable.

This is the only treatment I have found recommendable in such cases. Psoas abscess, pus in the joints, etc., can be so treated, to great advantage and safety to the patient.—*Georgia Medical Companion*, September, 1871.

VAPOR OF AMMONIA IN THE TREATMENT OF WHOOPING-COUGH.

Mr. John Grantham states (*Brit. Med. Journal*, September 16, 1871) that in cases of whooping-cough in the last stage (that is, after the third week) he has had one ounce of the strongest liquid ammonia put into a gallon of boiling water in an open pan, and the steam kept up by means of half a brick made red-hot throughout and put into the boiling water containing the ammonia, the pan being placed in the centre of a room, into which the patients were brought as the ammoniated steam was passing off. "This method was used in the evening, just before bedtime; and it has been so efficacious," he says, "in abating the spasmodic attack, and after three or four days terminating the malady, that I cannot overestimate the great value of this mode of inhaling the ammonia as a therapeutic agent in tranquillizing the nervous system in whooping-cough.—*Medical News and Library.*

INFLUENCE OF TOBACCO IN DISEASES OF NERVE-CENTRES.

In the *Bulletin de l'Association Franc. cont. l'Abus du Tabac*, M. Tamisier states that out of fifty-nine grave affections of the nerve-centres, observed from 1860 to 1869 among men, forty occurred in smokers. In fifteen cases of hemiplegia, nine abused tobacco, and two used it moderately; four did not smoke. Of eighteen cases of paraplegia, five were great smokers, three moderate smokers, and ten abstained from tobacco. Out of twenty cases of locomotor ataxia, fourteen were great smokers, five moderate, and one abstainer. Tamisier thinks that it is especially, if not wholly to this cause that we must attribute the disease in the majority of cases of hemiplegia and of ataxia he has noticed since 1860. M. Lefevre, of Louvain, thinks it indubitable that excessive smoking causes paralytic mania: because, 1st. Nicotine causes in animals progressive enfeeblement of the muscles of

motion up to paralysis, and congestion of the nerve-centres. 2d. Analogous symptoms have been noticed in numbers of persons who abuse tobacco in smoking or chewing. 3d. It has been found in all countries that there is a constant relation between the consumption of tobacco and the increase of general paralysis.—*The Doctor*, October 1, 1871.

CHRONIC OPHTHALMIA CURED BY TAKING OUT OF A TOOTH.

BY DR. BLANC.

Charrière, of the 98th line regiment, came into the hospital the 3d of July for inflammation of the left eye.

The disease had commenced the previous February, whilst he was a prisoner in Prussia. He was seen numerous times by the doctor charged with attending the prisoners, and followed his advice without success. The 20th of April he was sent to the Hospital of Krekon, where he remained two months without receiving any relief, until he was sent back to France.

When he entered the hospital the note was, July 3d: Ocular and palpebral mucous membranes both very red; the radiating vessels crowding up to the cornea; continuous pain, exacerbated at intervals, and especially at night; photophobia intense; head heavy and painful; tongue coated; appetite poor, pulse small, frequent. Treatment: Ten leeches to the angle of the left jaw, collyrium of sulphate of zinc, diluent tisane one-half a quart.

4th. Marked improvement. Treatment continued without the leeches. 5th and 6th. Still better. 7th. A blister to the nucha.

9th. Last night the worst he has had.

Dr. Blanc, remembering an able article of Dr. Tavignot (*Revue de Thérap. Medico-Chir.*, April, 1871), now inquired into the condition of the man's teeth, and finding the first upper molar of the left side very bad, extracted it. After the operation there was rapid and steady amendment of all the symptoms. On the 15th of July the patient was surprised reading a newspaper, and on the 21st was dismissed cured.—*Revue Thérapeut. Chir.*, 1871.

EPILEPSY IN A GOUTY SUBJECT CURED BY COLCHICUM.

Dr. Rounel was called to see M. P., a bailiff, by his son, who said his father was dying in an epileptic fit. By the time the doctor ar-

rived the fit had passed, and the man was able to tell him that he had suffered from epilepsy for ten years, and had consulted many noted physicians; but in spite of the most faithful trial of their treatments, the paroxysms were constantly becoming more frequent and severe. The various prescriptions (copies of which had been kept) comprised almost all the recognized anti-epileptic drugs. On questioning it was found that the patient had formerly been a martyr to gout—that a severe gouty attack had immediately preceded the first epileptic paroxysm—since which he had been free from his disorder. He was at once put upon the steady use of colchicum, and after a short time was freed from his epilepsy.—*Revue de Thérapeut. Medico-Chirurg.*

LYCOPERDON AS A STYPTIC.

In the *Canada Dental Times*, Mr. C. Brewster writes as follows concerning this fungus:—

"Thirteen years ago I commenced using the lycoperdon in my practice, and in all cases it was attended with great success; so that in course of years I gradually abandoned all other material, officinal and non-officinal, and to-day I regard it, without any exception, the best known remedy wherever it can be applied locally. Its mode of application is very easy, being simply to take a piece of the fungus large enough to fill the cavity left by the extraction of the tooth, and pressing it firmly in, hold it there for a minute. If there is blood still flowing, place another piece on the top of the first, and again hold it firmly there. If this does not yet arrest the hemorrhage, remove all that you have put in the cavity and repeat the operation. Two or three applications will cure the worst case. For any other description of wound, a piece large enough to cover its surface, held firmly on, or, if circumstances will admit of it, bandaged on. For cases where it is necessary to arrest the flow of blood from a leech-bite, a small piece of this material pressed firmly on the spot for a moment will completely arrest the flow.

"I have never tried it, but I think in cases of bleeding at the nose, if the nostrils were cleared as much as possible of the blood, and a good-sized piece of lycoperdon was held beneath them, tightly squeezed between the fingers, the patients being directed to inhale with all their force the fumes that arise from this fungus on pressure, it would have the same effect on the lining membrane as if brought into actual contact with it. The smoke arising from the combustion of lycoperdon is a powerful anæsthetic."

HYPODERMIC INJECTION OF MORPHIA INTO A VEIN.

In the *Northwestern Medical and Surgical Journal*, Dr. N. H. Norris describes the sensations produced by an injection of morphia (amount not stated) into a vein of his arm:—

"Immediately afterwards I experienced a strange sensation in the region of my heart, and a creeping and tingling down my arms and legs. I spoke to the clerk, and told him I felt queer, and asked him to get some water. The suffocation and constriction at my heart and throat increased, and the tingling in my limbs, hands, and feet became unendurable. There was a feeling of swelling and stiffness in my joints and lips, and motion and speech became laborious and painful. I dashed some water on my arms and face, and felt my pulse, which was irregular and hardly perceptible. The clerk remarked my paleness, and asked what the matter was, and knowing what I had done, as well as the danger of injecting a vein, which he surmised was the case, became alarmed and commenced to briskly rub my arms and face, as I sat leaning against the wall. The choking and suffocation continued not longer than two minutes, though to me it seemed much longer, when I broke out with a profuse perspiration—my face became flushed, and my pulse rose to over two hundred. I felt as if I was dying. My mind was clear and I showed no alarm. This condition continued for about two minutes, and was followed by vomiting and *intense* pain in my head. As soon as the vomiting commenced my pulse fell to forty, and I felt better. The vomiting continued about twenty minutes. The tingling in my limbs, and swollen and stiff sensation in my joints and lips lasted for about an hour. My head continued to ache until about nine P. M., when it ceased. For two days there was a feeling of weakness and lassitude."

ON RHIGOLINE—AMYL HYDRIDE.

In the *Medical Times and Gazette* of Sept., 1871, are some lectures on the organic hydrides by Dr. B. W. Richardson, in which he calls attention especially to amyl hydride or rhigoline. He believes it will prove of value as a solvent. Thus iodine may be dissolved in it in the proportion of 20 grs. to the ounce, and the solution affords a most ready means of applying iodine, especially to irregular surfaces, such as old sores, the haloid being left by the evaporation of the liquid evenly distributed over the most uneven surface. The solution may be simply poured on. The solution is also commended as a means of administering iodine by inhalation in throat and chest diseases. For this purpose

the 20-grain solution should be reduced in strength, as its vapors are too irritating to the throat. With a little care 5 grains of the iodine can be inhaled at one sitting.

By repeatedly wetting bibulous paper with the strong solution, and allowing it to dry, it can be so saturated with the iodine as, on exposure to the air, to yield the iodine more or less rapidly. When this process is not sufficiently active to disinfect a ward, the solution may be thrown, by means of an atomizer, into the air, upon the floor, clothes, etc. Dr. Richardson believes that iodine is the most potent disinfectant known.

Dr. Richardson has also tried the amyl hydride, as an anæsthetic, largely on animals, slightly on man. Its action in this respect is a very rapid one, and, he believes, will prove a very safe one. When the inspiration of it is suspended, consciousness returns in from half a minute to a minute and a half. When the inhalation is continued in an animal until death, the latter is very gradual in its approach, and appears to be brought about almost equally through the heart and respiratory system. After death the irritability of the voluntary muscles is preserved for a long time, but the heart is completely dead, failing entirely to react to any stimulus.

ERGOT IN DYSENTERY.

In the *Gazette Hebdomadaire* of October 20th is published a communication to the French Academy from Prof. A. Luton, of Rheims, who states as a new thing, that he has used ergot with remarkable success in a violent and protracted epidemic of typhoid dysentery in that city. He gives the ergot in powder, 3 grammes a day, in divided doses, and has also used ergotine in corresponding doses. In most cases convalescence is established on the third day; in other cases a longer time is required. Under its influence blood soon disappears from the stools, pain and fever disappear, and the whole train of symptoms rapidly ameliorate.

[That this use of ergot should be considered new by the French Academy, and pass unchallenged by the editors of the *Gazette Hebdomadaire*, is rather astonishing, seeing that in 1858 Dr. F. E. Barlan-Fontayral published a work of 220 pages, entitled "Étude botanique et médicale sur le Seigle Ergoté et de l'application de l'ergotine *à la cure de la dyssenterie et de la diarrhée chronique*," in which he gives accounts of numerous cases cured by the use of ergot.—Editor of New Remedies.]

WASP-STINGS.

Dr. Drury commends (*British Med. Journ.*, Sept. 23, 1871) the following treatment in cases of illness produced by the stings of wasps:—

A careful examination of the wound should be made with a good pocket lens, and any remnant of the sting removed with a pair of fine-pointed forceps. Laudanum should be applied by means of a cotton-wool swab for at least ten minutes, followed by warm water fomentations. Internally, brandy and hot water should be given at once, and twenty minims of aromatic spirit of ammonia every half hour as long as there is depression. If the mouth or throat be stung, warm flannels should be applied to the neck, and warm inhalations with ether employed. There is sure to be spasm of the rima glottidis in these cases. In no case that I have seen yet would I have given opium internally; I doubt anything but mischief from its use in any of these cases, but I am aware it has been recommended by medical writers. If local pain be not subdued by the application of the laudanum, then I think I would try the effect of hyoscyamus poultice or tincture of belladonna sprinkled over a warm damp flannel, and applied to the wound.

Glycerized Cotton for Dressing Wounds.—Professor Gubler, at a recent meeting of the Académie de Médecine, exhibited some specimens of wadding prepared by saturating it with a certain quantity of glycerine, which he had found to render it permeable to all medicinal liquids, without causing it to lose any of its suppleness and lightness. He suggested that in this state it might prove a useful substitute for charpie, in the event of a scarcity of that article. Dr. Delaborde has already employed it with advantage. In order to prepare this dressing it is only necessary to pour a small quantity of glycerine over the square sheet of wadding, and afterwards express it as strongly as possible.—*Journal de Pharmacie et de Chimie.*

Treatment of Malignant Small-Pox by Sulphur Fumigation and Sulphurous Acid.—In the *Boston Medical and Surgical Journal* of Nov. 2, Dr. F. Hjaltelin, of Iceland, details his successful efforts in stamping out a commencing epidemic of malignant small-pox and of curing those already sick by free fumigations of burning sulphur and the sulphurous acid water internally.

Abortive Treatment of Felons.—A correspondent of the *Boston Journal of Chemistry* writes that it is well known by physicians that pressure causes absorption; and in view of this fact, ten years ago he adopted the plan of applying several coatings of collodion over the finger or place where the pain is felt on its first appearance. On dry-

ing, the collodion contracts with an even pressure, and if kept on for twenty-four hours, the symptoms will usually entirely disappear.

Of late he has been in the habit of soaking the affected part in quite a strong solution of carbolic acid for a few minutes before applying the collodion. The pain for some hours will be quite severe, but an anodyne will afford relief.—*Med. Record.*

Treatment of the Last Stage of Cholera.—Professor Filippo Pacini, of Florence, in a little pamphlet just published, *Sull ultimo Stadio del Cholera*, is of the opinion that in the stage of apparent death which closes the scene in that disease, the only available means at hand for resuscitation is the injection of salt water into the veins. The places of election for this delicate operation he lays down as the cephalic, brachial, or external jugular veins, and his mixture is 10 grammes of fine salt to one kilogramme of water. He uses at one time 200 grammes of this solution at a temperature of 40° centigrade. After one kilogramme has been injected without effect, he regards the case as hopeless.—*Medical and Surgical Reporter.*

Chloral in Cholera.—During the epidemic which has recently prevailed at Riga, Dr. von Reichard has had recourse to chloral, administering it according to the following indications: "1. To relieve the cramps at the commencement. 2. To assuage the præcordial suffering which is so distressing during the latter stages. 3. To arrest vomiting. 4. To procure the sleep so urgently demanded by the patients. Not only were these indications fulfilled, but the success obtained from the medicine surpassed all expectation. In one case in which the ordinary treatment had been pursued, and the patient seemed as if he had only a few hours to live, a drachm of chloral was given him in four times the quantity of water, so that a strong sense of burning was felt while swallowing it. In two minutes sleep had commenced, and, troubled at first, it became calm and lasted three hours. Respiration became easier, the warmth and turgescence of the surface reappeared, the cholera *facies* disappeared, and the pulse diminished from 130 to 90. The vomiting and stools ceased, and, in fact, a true resurrection was effected, the patient rapidly recovering. M. Blumenthal, also of Riga, has used it in two bad cases successfully, in doses of a drachm repeated two or three times in the hour.—*Medical and Surgical Reporter.*

Bromide of Potassium in Urethral Fever.—Dr. I. T. Rothrock details a case in which use of a catheter was followed by severe fever several times, and in which thirty grains of the bromide, given just after the use of the instrument, sufficed to prevent the constitutional disturbance.—*Philadelphia Medical Times*, Dec. 1, 1871.

Strychnia in Albuminuria.—Brignoli, in *Lo Sperimentale*, besides recommending nux vomica in various neuroses, gastralgia, dyspepsia, cardiac palpitations, periodic cough, &c., states that he has observed it to have a marked effect in retarding the progress of albuminuria, especially the scarlatinal form with anasarca. He cites twelve cases of complete recovery.—*British Med. Journ.*, Oct. 28, 1871.

Calabar Bean in Tetanus.—Dr. Franzolini details (*Gaz. Méd. Ital. Pro. Ven.*) the case of a patient in his hospital with tetanus, caused by the penetration of a splinter of wood into her left foot. After removing the fragment from the foot on the 16th of July, Dr. Franzolini made an injection of tincture of Calabar bean in the nape of the neck. The pulse was 84, temperature 38.8, and respirations 22. On the 18th July, pulse 96, temperature 38.5, respirations 28. The injections were continued, thirty drops being injected—every twelve drops containing five centigrammes of the bean. In the first twenty-four hours 130 drops of the simple tincture of the Calabar bean were injected. The patient succumbed.—*The Doctor*, October 1st, 1871.

In the *Philadelphia Medical Times* of Dec. 15, is reported a fatal case of traumatic tetanus which was treated with Calabar bean.

Cundurango.—According to the *London Lancet* (Oct. 28, 1871), a trial of this drug in the Middlesex Hospital, London, has shown it to be worthless in the treatment of cancer. A testimony which is abundantly confirmed on all sides.

Chorea.—We find in the *Aerztliches Literaturblatt* for July 7, M. Wenz treated a girl of 17 years of age, who had not hitherto menstruated, but who had been for several weeks affected with chorea of the right side, by local anæsthetization of the skin over the spinal column. It suspended consciousness, giving rise to a kind of catalepsy. It was repeated for several days, with the result that the chorea was cured. M. Wenz suggests a trial of this plan in tetanus.—*The Doctor.*

Treatment of Chorea.—Dr. Wenz, of Dörzbach, reports (*Würtemb. Corr. Bl.*, xlii., 1871) a case of chorea minor, with some manifestations of movements of chorea major, in which, on the twelfth day, treatment by the ether spray on the spine was commenced. At first 30 grammes of ether were used at a time, afterwards 16. Six applications sufficed for the cure of the patient, except some slight indications of choreic movements.—*Schmidt's Jahrbücher*, Sept. 25, 1871.

Pumpkin Seed as Anthelmintic.—The anthelmintic value of pumpkin seed appears to have long been known in the East, for, according to the New York *Druggists' Circular*, of August, Dr. Smith used

the following language before the New York Farmers' Club: "In my travels in Syria I found pumpkin seeds almost universally eaten by the people on account of their supposed medical qualities, not because they are diuretic, but as an antidote against animalculæ which infest the bowels. They are sold in the streets, as apples and nuts are here.

Chloral as an Antiseptic.—Mr. Stoddart, of Bristol, has recently examined the stomach, lung, heart, kidney, and spleen of a patient who died from an overdose of chloral hydrate. The first thing, he says, that struck me was the very extraordinary way in which the several portions were preserved. Even now, although more than a week has elapsed since death, yet not the slightest sign of decomposition has taken place, nor any unpleasant odor. This, doubtless, is the effect of chloroform in the tissues.—*Med. Press and Circ.*

Remedy for Poisoning by Rhus Toxicodendron.—Dr. J. D. Stewart writes to *Boston Journal of Chemistry* as follows: "I send the following, which I have used for more than twenty-five years with great satisfaction. The tormenting burning pain is relieved instantaneously, and the worst cases are cured in one or two days: Bruise slightly a handful of white ash leaves (*Fraxinus acuminata*); add new milk enough to cover; simmer ten minutes, and apply, as hot as can be borne, three times a day." Mr. Harris, in the *Scientific American*, states that he has used locally, with signal success, a wash made from a solution of belladonna, a teaspoonful to a tumblerful of water.

Creasote in Typhoid Fever.—In the *Revue de Thérap. Medico-Chirurg.*, Sept. 17, is a paper by Dr. G. Morache, in which he strongly commends the use of creasote in typhoid fever. He thinks it acts locally on the digestive tract, modifying very favorably the character of the discharges, and at the same time lessens the temperature of the patient. He gives it in doses of 4 to 8 drops, and at the same time an injection of 4 to 7 drops. Dr. M. thinks also that creasote acts specifically by arresting fermentation, but at the same time distinctly states that the use of phenic acid has not given as good results.

Calabar Bean in Tetanus.—In the Indian *Medical Gazette* of June 1, Mr. C. Macnamara reports a case of traumatic tetanus, in which recovery took place under the administration of Calabar bean.

Treatment of Locomotor Ataxia by Electricity.—In the *Revue de Thérap. Medico-Chirurg.* for October, 1871, Dr. Paul Spillmann details a case of well-advanced locomotor ataxia cured by the continued galvanic current. The descending spinal current was used; that is, the positive electrode was always applied to the upper part of

the spine and the negative to the lower limbs. The strength of the current never exceeded that of more than 20 to 30 elements of Remak.

Aguomada (Plumeria Lancifolia).—This plant, a native of Brazil, is much used in Rio Janeiro as an emmenagogue, in doses of one and a half to two drachms of the dried leaves, taken in infusion one, two, or three times a day. Its properties are said to reside in a resin and a bitter extractive. An alcoholic extract is prepared, of which the dose is 0.15 centigrammes. It is also used in leucorrhœa, and when the lochia are irregular after confinement.—*Journal de Méd. de Brussels.*

Phosphorus as a Remedy in Cataract.—In the *Revue de Thérap. Medico-Chirurg.* (August and September) Dr. Tavignot has a paper of some length upon the above subject, in which he concludes that it is possible to cure a certain number of cases of cataract, without operation, by the more or less prolonged internal exhibition of phosphorus, and that all cataracts are influenced by it, the gray becoming white, the white milky.

Anæsthetics.—For a most elaborate article on recent advancements in anæsthesia, see a paper, too long for abstraction, in *Schmidt's Jahrb.* of Sept. 25, 1871.

The Origin of Enemata.—Frederigo Kernot, of Naples, in a newly published *Storia della Farmacia*, describes, "with true Southern liveliness," according to the *Pharmaceutical Journal*, the invention of the enema-apparatus, which he looks upon as an epoch in pharmacy as important as the discovery of America in the history of human civilization. The glory of the invention of this instrument, so beneficial to suffering mankind, belongs to an Italian, Gatenaria, whose name ought to find a modest place together with Columbus, Galileo, Gioja, and other eminent and illustrious Italians. He was a compatriot of Columbus, and professor at Pavia, where he died in 1496, after having spent several years in the perfection of his instrument. The enema-apparatus may be justly named the queen of the world, as it has reigned without a rival for three hundred years over the whole Continent, besides Brazil and America. The enema came into use soon after the invention of the apparatus itself. Bouvard, physician to Louis XIII., applied two hundred and twenty enemata to this monarch in the course of six months. In the first years of Louis XIV. it became the fashion of the day. Ladies took three or four a day to keep a fresh complexion, and the dandies used as many for a white skin. Enemata were perfumed with orange, angelica, bergamot, and roses; and Mr. Kernot exclaims, enthusiastically, "O! se tornasse questa moda!" (Oh that

this fashion would return!) The medical profession at first hailed the invention with delight, but soon found the application *infra dig.*, and handed it over to the pharmacist; but shameful invectives, sarcasms, and epigrams, hurled at those who exercised the humble duty of applying the apparatus, made them at last resign it to barbers and hospital attendants. As a specimen of these epigrams, the author gives the epitaph on the tombstone of an ancient pharmacist:—

"Ci-git qui pour un quart d'écu
S'agenouillait devant un cu."

—*British Medical Journal.*

Extract of Conium in Inflammation of the Breast.—M. Aldstadter, of Pesth, strongly recommends (*Wiener Med. Presse*, No. 12, 1871) small doses of extract of conium, repeated several times in the course of the day, for the resolution of inflammation of the breast, arising from stasis of the milk in puerperal women, and reports several cases in which striking advantage was obtained from its use. In all instances care should be taken to obtain as pure and active a specimen of the drug as possible.—*The Practitioner*, Aug., 1871.

Purifying of Hospital Wards.—M. Rabot states (*L' Union Médicale*, Aug. 20, 1871) that he has succeeded in purifying hospital wards, without disturbing the patients, by the following means: An oxygen-generating apparatus is placed outside the building, and, by means of a long india-rubber tube, a volume of oxygen is introduced, measuring about the thousandth part of the cubic feet of the room, after the ward had, as usual, been well ventilated. To feed the patients' curiosity, a few fumigations with cascarilla were made. In both extremities of the ward large basins containing one pound of peroxide of manganese and ten pounds of the solution of hyperchloride of lime were placed and changed every day. The method has been conscientiously applied by M. Rabot in a hospital at Versailles, with the best results.—*Medical News and Library.*

Death from Bichloride of Methylene.—A case of this lately occurred at the Radcliffe Infirmary, Oxford. The patient, a woman, æt. 44, was about to undergo an operation for cancer of the breast. Bichloride of methylene was administered on a flannel rag. After two or three convulsive gasps the patient expired. The quantity administered was small. Artificial respiration was practised, and other means of restoration, but without success.—*British Medical Journal*, Sept. 16, 1871.

Frozen Beef-Essence.—Dr. H. B. Hare states (*Phila. Med. Times*, Oct. 16, 1871) that in a case of scarlet-fever in a child, the patient could not be induced to swallow the beef-tea which his condition required. As he took ice with avidity, the father suggested that if the beef-tea were frozen he might then be induced to take it in that form. The suggestion was carried out, and the child took the frozen beef-tea readily. This expedient may in many cases be advantageously resorted to.

Rash Produced by Quinine.—At a meeting of the Detroit Academy of Medicine (*Detroit Review of Med. and Pharm.*, Sept., 1871) Dr. Andrews reports several cases in which quinine produced eruptions attended with such intense itching as to preclude its use.

The Teaspoon as a Measure.—A writer in the *Canadian Pharmaceutical Journal*, who has examined the subject critically, says that teaspoons have been gradually growing larger of late years, the spoon of the last century having been only about two-thirds of the size of that now in common use. He adds, however, that three sizes are made at the present time—large, medium, and small, containing 95, 85, and 60 minims respectively. Table-spoons, also, have increased, and vary from 4.5 to 6 fluid drachms in capacity. He infers that the dose of certain articles may be unsafe if a teaspoonful or a table-spoonful be ordered, and proposes to abolish the dessert-spoon as a measure, substituting two teaspoonfuls.

Local Application of the Leaves of Datura Stramonium, —In the *Revue de Thérapeut. Medico-Chirurg.* for Nov. 15, 1871, Felix Neucourt praises cataplasms made of the leaves of Datura Stramonium as of great service in various inflammations, detailing a number of cases in which he found them very useful. These cases comprised acute intestinal inflammation, acute and chronic phlebitis, phlegmonous, muscular rheumatism, arthritis of the great toe, and inflammation of the vulva. The cataplasm should be applied immediately over the affected part, and be changed about three times a day.

In a case of cardiac dropsy the application of a cataplasm of stramonium to the abdomen produced, after eight hours, diarrhœa and profuse diuresis, with subsequent relief to the anasarca. In inflammatory cases the relief was most marked when the cataplasms were applied early. In no case were symptoms of mydriasis or narcotic intoxication induced.

Belladonna locally applied in Orchitis and other Inflammations.—Dr. S. D. Turney, in the *American Practitioner*, states that he has for sixteen years used belladonna as a local application in

orchitis, and that in twenty-four hours there is usually entire relief, and the patient may leave his room, after having applied a suspensory bandage. The same remedy is also very efficacious in inflamed breasts. The formula is as follows:—

Take of Extract of belladonna, one drachm.
Glycerole of starch, one ounce.

Mix and rub thoroughly over the entire scrotum and along the affected cord every three or four hours.

Gelsemium.—In the *American Practitioner*, vol. iv., p. 267, Dr. Theo. M. Rafferty recommends tincture of Gelsemium as a most valuable febrifuge, as being very useful in neuralgia, hysteria, nervous headache, and as near a specific for rigidity of the os uteri in labor, and as of great service in puerperal eclampsia.

Acupuncture in Muscular Paralysis and Pains.—Dr. Pridgin Teale commends (*Abeille Médicale*) acupuncture in muscular paralysis following luxations from want of use of the part, and also in persistent muscular pains which have resisted other treatment, and are probably due to rheumatic fibrous inflammation. The acupuncture is supposed to relieve by modifying the afflux of blood, and consequently nutrition. The needle must be thrust clear through the tissue to the bone beneath, and allowed to remain one minute. Relief is sometimes immediate.—*Revue de Thérap. Medico-Chir.*, Nov. 1, 1871.

Tetanus.—In U. S. A. Circular No. 3, August 17, 1871, several cases of tetanus are reported—one, following gun-shot wound of the hand, treated with opium and chloroform inhalations, terminating fatally. At the autopsy the median nerve was found inflamed for five or six inches. One, very bad, following a severe burn caused by explosion of a magazine. Recovery. Treatment: attention to bowels and most supporting food, with free use of alcohol; bromide of potassium carried to the extent of half an ounce four times a day; grain doses of morphia to procure sleep, and, later in the disease, eight grains of quinine daily.

One case treated with large doses of opium and inhalation of ether. This was very severe. The convulsions followed instantly upon a blow on a very sore bubo, and occurred every five or ten minutes, and were very severe. In ten hours two and a half ounces of laudanum and fourteen ounces of ether were used, and at the end of that period the spasms yielded. Recovery.

MATERIA MEDICA.

PRESERVATION OF TINCT. KINO FROM GELATINIZING.

BY J. W. WOOD, ROKEBY, DEL.

Among all our tinctures perhaps there is not one so liable to deteriorate by exposure or by long keeping as tincture of kino, made in accordance with the U. S. Pharmacopœia. Its well-known property of gelatinizing in a short time—a property which yet remains to be investigated, it being thereby rendered inert—precludes it from being as extensively used as its virtues would seem to warrant. This property renders it inadmissible when we desire a reliable tincture to prepare it in large quantities.

The pharmacopœia formerly directed it to be prepared with dilute alcohol as the menstruum; but later it was thought to be of advantage to increase the proportion of alcohol to two-thirds, yet it is doubtful if there was much gained by this change.

I would therefore submit the following mode of preparation, which I consider, from the experience I have had, will meet with the desired end, and up to the present time results do not seem to disprove it. It is as follows:—

Take of Kino, in fine powder, oz. 1½.
Alcohol, .835, fl. oz. 8.
Aquæ, fl. oz. 4.
Glycerinæ, fl. oz. 4.

Mix the alcohol, water, and glycerine together, and having mixed the kino with an equal bulk of clean sand, place the mixture in a percolator and pour on the menstruum.

This menstruum seems to thoroughly exhaust the drug of its astringent principle, and also makes a nice-looking preparation.

Some which I made on the sixteenth day of July, 1870, was exposed to the influence of the atmosphere, the stopper of the bottle containing it having been removed for several months, so that it had evaporated to at least two-thirds; yet it remains as good as when freshly made, without any apparent tendency to gelatinize.

The menstruum might be somewhat modified, perhaps, with advantage; as, for instance, by using proportionally less alcohol and more glycerine and water, or *vice versâ*. At any rate, I will give it for what it is worth, adding at the same time the suggestion—and it is only a suggestion—that the same menstruum be employed in preparing tinct. catechu, which, though not so liable to gelatinize as tinct. kino, yet sometimes does so.—*American Journal of Pharmacy*, August, 1871.

ADULTERATIONS OF BROMIDE OF POTASSIUM.

BY M. ADRIAN.

Ten samples of bromide of potassium, obtained from the principal French manufacturers, were analyzed, and only one of them was found sufficiently pure for medicinal purposes; the others contained from 10 to 15, one sample even 35 per cent., of impurities. The similarity in form of crystallization of bromide, iodide, and chloride of potassium makes a superficial inspection of no use; and one sample, remarkable for the whiteness, thickness, and regularity of its crystals, was found to be extremely impure.

The impurities are best recognized by dissolving ten grammes of the salt in 100 c. c. of solution; effervescence on addition of hydrochloric acid proves the presence of carbonates; one drop of benzole and a few drops of bromine water produce a rosy color if iodides are present; sulphate is detected by nitrate of baryta, and bromate by sulphuric acid producing a yellow coloration. After these preliminary tests, and after complete separation of the carbonate, sulphate, and iodide, the chloride may be determined by a standard solution of silver.—*Journ. de Pharm. et de Chim.*, and *Pharmac. Journal and Trans.*, Sept. 30, 1871.

GELATINE AS A VEHICLE FOR POWERFUL MEDICINES.

Dr. T. Huseman gives an account (*Centralblatt f. Med. Wiss.*, No. 157) of the method of Prof. A. Almen, of Upsala, for the administration of medicines by means of the *gelatinæ medicatæ in lamellis*. This method, which has been extensively used in Sweden, renders the administration of powerful medicines easy and exact. Gelatin (6 grammes) is dissolved in warm water, and then the medicine added. The solution is poured upon a plate of glass to solidify and dry. The stiffened mass, of the thickness of paper, is divided into squares, each of which contains a certain dose. A slight addition of glycerine serves

to make the otherwise brittle gelatinæ tough and flexible as paper. Too much glycerine makes the gelatinæ soft and too readily moist. With insoluble drugs it is necessary that the medicine be added to the solution of glue in a thick emulsion; gum acacia is to be preferred to gum tragacanth. The gelatinæ must not be placed dry upon the tongue, but moistened and swallowed with a gulp of water. The chief drugs thus used by Prof. Almen are gelatinæ morphii acetici, tartarized antimony, acetate of lead, sulphate of copper, extract. opii, opii levantici, extract. belladonnæ, extract. colocynth comp., hydrarg. chlorat. mitis, pulv. rad. ipecac., infusion ipecac., pulv. fol. digitalis, infusion digitalis, camphoræ. The gelatinæ atropiæ and physostigmatis, for local application to the eye, have proved useful; but the gelatinæ sinapis and cantharidum, for external application to the skin, have not yet been thoroughly tried.—*Medical Press and Circular*, Aug. 23, 1871.

COMPOSITION OF CUBEBS.

BY E. A. SCHMIDT.

The analysis of fresh cubebs gave the following result:—

	Per cent.	
Water	4.75	
Essential oil	14.22	
Brown coloring matter	6.94	=23.84 soluble in water.
Gum	8.19	
Starch	1.78	
Albumen	2.71	
Extractive matter and salts	4.22	
Oxalate of lime	0.40	
Cubebine	2.48	
Acid resin (cubebic acid)	0.96	
Indifferent resin	2.56	
Green fatty oil	1.18	
Greenish-yellow soft fat	0.51	
Vegetable skeleton	43.07	
Loss	6.03	
	100,00	

The essential oil is colorless or pale green, tasting and smelling intensely of cubebs; it consists of two oils, the one being lighter, of sp. gr. 0.915, boiling-point 220° C., the other being less than one-half, has a sp. gr. of 0.937, and boiling-point 250° C. They both contain 88.26 C and 11.74 H, corresponding to $C_{10}H_{14}$.

It is neutral, soluble in 17 parts of absolute alcohol; it fulminates with iodine, is decomposed by sulphuric acid, and gives with hydrochloric acid vapor a solid and a liquid compound. The oil of fresh

cubebs does not contain any stearoptene, like that made from old cubebs.

Cubebine forms fine white needles. By itself it is tasteless, but it imparts a bitter taste to an alcoholic solution. It is insoluble in cold, and slightly soluble in hot water, soluble in 30 parts of ether, and in 75 parts of alcohol; also in chloroform, bisulphide of carbon, acetic acid, and in fatty and essential oils; it melts at 125°–126° C., boils at 190° C., but does not volatilize. It is neutral; concentrated sulphuric acid colors it red, nitric acid brown.—*Archiv. der Pharm.*, cxli. 1, and *Pharm. Journal.*

SACCHARATED TAR, OR SOLUBLE VEGETABLE TAR.

BY M. A. ROUSSIN.

The value of vegetable tar as a therapeutic agent is generally recognized, but hitherto, in consequence of the small extent to which it is soluble in water, its use has been limited. Many attempts have been made to secure a greater solubility, but this has only been obtained by the employment of alkalies—that is to say, by saponification. But saponification undoubtedly modifies the elements of the tar, and partly destroys its curative properties.

According to M. Adrian, "these preparations do not correspond by their chemical composition to the therapeutic properties that are expected in them," and he states that he has found alkalies, as well as acids, to modify the resinous qualities that are the basis of the medicament.

Dr. Jeannel has expressed a similar opinion. He says it is necessary that the tar should be emulsed by a neutral substance, since by so doing all the natural properties of the tar would be preserved.

Impressed with the correctness of this idea, M. Roussin sought to adapt to vegetable tar the same process by which he was able, on a former occasion, to form an emulsion with balm of copaiba. At that time he proposed to use sugar for facilitating the emulsion of copaiba in water, and as a corrective of the repulsive taste of that substance—sugar being a neutral substance, without any chemical action capable of modifying the composition or curative properties of medicinal substances, and daily associated without hesitation with all kinds of remedies.

After several attempts this problem was resolved, and a complete solution of the vegetable tar in water obtained. The emulsion of tar was effected by triturating in a porcelain mortar, so as to obtain a

homogeneous paste, purified tar, powdered sugar, and powder of gum arabic. A small quantity of water was added to obtain an emulsion: it was then left to stand, and afterwards decanted. This saccharated emulsion had not the repulsive odor of the emulsion prepared with an alkali; it possessed the odor of tar, and a taste neither sharp nor bitter. It was miscible with water in all proportions, so that, by estimating the quantity of tar present, a solution might be prepared instantaneously, containing any required quantity of the active principle.

But the liquid form of the medicament presenting many and serious inconveniencies, it appeared to M. Roussin that the pulverulent form, with all its practical advantages, would be very desirable. He therefore pursued his researches until he succeeded in obtaining a saccharate as a yellow powder, only differing from sugar in appearance by its color, and exhaling the balsamic odor of tar. This preparation constitutes a remedy essentially new in form, and appears to be the real and complete solution of the problem of Dr. Jeannel.

The saccharate of tar is constant in its composition. It contains 4 per cent. of purified vegetable tar. A teaspoonful (5 grammes) thus represents 20 centigrammes of tar, and will suffice for the preparation of a litre of water.

According to M. Bouchardat, 30 grammes of tar-water contain nearly 1 centigramme of the principles of the tar in solution. This would be nearly 30 centigrammes to the litre. Soubeiran says that the proportion of matter dissolved in tar-water is so small that 100 grammes do not contain 4 centigrammes (less than 40 centigrammes the litre), and that patients can scarcely support the tar-water unless it be diluted.

The irritation of the stomach often provoked by the tar-water of the Codex is prevented by the saccharate; the proportion being but 4 per cent., the acridity of the tar is covered. Another advantage, not less important, due to its pulverulent form, is that it avoids the necessity of swallowing a large quantity of liquid, since a glass of water is sufficient to dissolve several teaspoonfuls. The physician can thus augment the quantity of tar according to the necessities of the patient.

The pulverulent form has another valuable advantage. Patients who are unable to overcome the repugnance the odor and taste of tar often provoke, may enjoy the benefits of this therapeutic agent by making up the saccharate into a pill with unleavened bread.

Gay, speaking of the acridity and repulsive taste of oil of tar, recommended that it should be sweetened, "in order to mask its flavor and its odor." Sugar, as I have said, does not alter the therapeutic properties, but modifies its organic properties and facilitates its absorption. While retaining the odor and taste of the remedy, the saccharate

so disguises them that the most delicate stomachs can bear it without repugnance.

The saccharate of tar is not the result of a chemical reaction; it is a simple mixture, each element of which retains intact its composition and its properties. Constant in its composition, it will furnish solutions really and mathematically entitled to the name, being able to fulfil all the conditions necessary for mixtures, gargles, injections, etc., and enabling the physician to give his patient such quantity of tar as he may deem necessary.—*Journal de Pharmacie et de Chimie, and Pharmaceut. Journ. and Trans.*

ON CRYSTALLINE ACONITINE.

The substance to which I propose to give the name of Crystalline Aconitine, says M. Duquesnel, to distinguish it from what has hitherto been called aconitine, is really the active principle of aconitus napellus. In order to prepare it, macerate in very concentrated alcohol, with the one-hundredth of tartaric acid added, selected and powdered roots of aconitus napellus. Then distil the tincture, protected from the air, at a temperature not exceeding 60° (C.?), until all the alcohol is driven off; then make a watery infusion of the extract left. This contains all the aconitine, in the condition of an acid tartrate. It is to be agitated with ether, which takes away the coloring matter, and an alkaline bicarbonate added until effervescence ceases. Ether now being added, dissolves the alkaloid, which crystallizes when the ethereal solution is allowed to evaporate.

Crystalline aconite is in colorless rhombic or hexagonal tables, with angles of different acuteness. Its formula is $C_{44}H_{46}NO_{14}$. Up to 100° C., it and its salts are permanent even in solution. At 100° C., in solution, it rapidly disappears, sometimes partially, sometimes completely. It is insoluble in simple water, freely so in acidulated water. It is not volatile even at 600°C. At 130° it appears to be partially decomposed and partially volatilized. Precipitated by means of an alkali from the solution of one of its salts, it is amorphous, pulverulent, whitish, and contains water of hydratation, which it loses at 100° C. without change of aspect. It is soluble in ether, alcohol, benzine, and especially in chloroform; insoluble in glycerine. It polarizes to the left. Its reaction is feebly alkaline, and forms salts with the acids. Phosphoric acid, tannin, iodurated iodide of potassium, and iodo-hydrargyrate of potassium are the best reagents; but it can only be certainly recognized by its physiological effects, the least trace of it, in alcoholic solution, producing on the tongue marked pricking and tingling.—*Journal de Pharmacie et de Chimie*, August, 1871.

A NEW EXCIPIENT FOR PILLS.

BY J. B. BARNES.

Soluble cream of tartar is a solution of bitartrate of potash in biborate of soda, boracic acid, or biborate of soda and tartaric acid; either of these compounds, when evaporated to the consistence of mucilage, is heavy and adhesive.

Having had my attention directed in an especial manner to the medicinal properties of sulphur, I was naturally led to reflect upon the inelegant mode of its administration. It is true the sulphur electuary of the Pharmacopœia is an improvement upon the horrible mixture of sulphur and treacle in common use, but still there is the grittiness and the mess. Sulphur is generally taken in combination with bitartrate of potash; and the soluble modification of this salt possessing the above-mentioned properties, it suggested to my mind the employment of so appropriate an excipient for the conversion of this substance into pills; and I venture to suggest that pills so prepared might be employed when this substance is required to be taken in doses of between four and twenty grains.

The samples of sulphur pills on the table, prepared respectively with the sublimed and precipitated varieties, contain in each four or five grains, together with one grain in twelve pills of gum tragacanth and a sufficient quantity of soluble cream of tartar. The pills containing four grains of precipitated sulphur are smaller than it is possible to prepare them with any of the ordinary excipients, being not quite so large as a five-grain compound rhubarb pill, and as hard as a lozenge. When placed in tepid water, the soluble cream of tartar speedily dissolves and the sulphur is set free.

I propose to call them "sulphur and cream of tartar pills."

I have also prepared five-grain pills of hydrate of chloral, Dover's powder, nitrate of potash, chlorate of potash, citrate of potash and gallic acid.

In the conversion of Dover's powder into pills, soluble cream of tartar only was used; for those of nitrate of potash and chlorate of potash, one grain to the drachm of gum tragacanth was employed, in addition to the soluble cream of tartar; for those of citrate of potash and gallic acid took two grains of the gum to each dozen. With the exception of the gallic acid, all these pills are smaller than an ordinary five-grain pill. All are firm, dissolve quickly in tepid water, and, what is of considerable importance, present a good appearance.—*Pharmaceutical Journal and Trans.*, Nov. 4, 1871.

Table of Reaction of Digitalis and Allied Substances, from Dr. G. Draggendorf's Untersuchungen aus dem pharmaceutischen Institut in Dorpat, copied into Zeitschrift des Allgemeinen Oester Apoth. Verein, July 20, 1871.

NAME.	PHYSIOLOGICAL ACTION.	ACTION OF SO_3.	ACTION OF SO_3 AND A LITTLE WATER.	ACTION OF SO_3 AND BROMINE.	ACTION OF FROHDES' REAGENT.	RELATION TO MURIATIC ACID.	REMARKS.
Digitalin.	Showing an irregularity of the heart's action. Arrest mostly in systole. No paralysis of extremities.	Green solution.	Green.	Reddish brown, with water again green.	Dark orange, then red, then greenish brown.	Yellow green, then emerald green solution.	
Digitaleir.	The same.	Red solution.	Pale green.	Beautiful purple red, becoming green with water.	Same as digitalin.	Greenish brown solution.	
Convallumarin.	The same. Over muscular contractility and respiration.	Yellow solution, brown red, at last becoming violet from the border.	A violet color follows quickly the putting a little water in the sulphuric acid solution.	Does not become red, or only through the water of the bromine solution.	As towards SO_3.	Green reddish solution by heating.	
Helleborein.	Arrest during diastole. No weakness of reflex actions or muscular contractility.	An almost immediate splendid red solution, gradually becoming violet.	Remains, if not too much water be used, red.	The color of SO_3 solution; removed by the bromine.	As with SO_3, but color pales sooner.	Dissolves without color.	
Active principle of the Saponaria Quillaya.	Arrest in the diastole. Paralysis of extremities. Reflex motions weak, or not perceptible.	A brown solution, becoming, on standing in the air, blue, violet, or red from the border.	Remains red, even with 2 vols. of water.	Becomes colorless with bromine, or reddish sometimes.	As with SO_3, but later pure violet.		
Senegin.	Weaker, but similar to the former.	Dissolves yellow, then reddish yellow, gradually from the border violet to red.	One time red or violet: so remains if only 1 vol. of water.	Remains brown.	Colors brown, and here and there violet.		

Smilacin.	Still weaker.	Dissolves brown, becoming later red.	The brown SO_3 solution with a little water becomes red.	Remains brown.	As with SO_3.		Almost totally insoluble in benzine.
Veratrin.	Causes a red subcutaneously. Tetanus in frogs.	Dissolves yellow, then becomes brown, soon a permanent red.	A small amount of water causes red quick to appear.	Bromine causes the red quickly to appear.	The red color less pure than with SO_3, otherwise the same.	Becomes by boiling beautiful red.	Alkaloidal reaction.
Delphinin.	Arrest in diastole.	Dissolves reddish brown.	With 4 vols. of water, dirty reddish rose.	As digitalin, only bleaches more quickly.	Red brown, then brown.	Colorless.	
Antiarin.	Arrests in frogs both heart and respiration.	Remains colorless.	Remains colorless.	(?)	(?)	Remains colorless.	
Cascarillin.	Without influence.	Reddish brown solution.		The reddish solution, sometimes with violet streaks.	Brown solution.	Remains colorless.	
Principle of Dulcamara.	Without influence.	Dissolves yellow, later reddish.			Yellow solution, afterwards reddish.		
Principle of Jalap-stem and roots.	Without influence.	Brown solution, becoming violet red or pure red.			As towards SO_3.		
Principle of Pimenta.	Without influence.	Brown solution; later beautiful red.			As towards SO_3, still color lost sooner.		

ON THE EMULSION OF TAR WITH SAPONINE.

M. Lucien Lebeuf recommends strongly (*Journal de Pharmacie et de Chimie*, October, 1871) a preparation of tar emulsified in water with saponine. The emulsion is so prepared that a tablespoonful (206 grs.) contains about 6 grs. of the tar. It should be freely diluted when given. The saponine is only in the proportion of one part in five hundred, has no chemical effect whatever on the tar, and in the small quantity given is certainly free from action of the economy. The emulsion affords a ready means of administering tar by the atomizer.

(This preparation does not seem to the editor of New Remedies as good for internal use as the preceding.)

HOW CRUDE RUBBER IS COLLECTED.

Greytown, Nicaragua, is the principal port for the export of india-rubber on the coast. It is collected by parties of Indians, Caribs, or half-caste Creoles—seldom by Europeans—to whom the dealers, who are also storekeepers, advance the necessary outfit of food, clothing, and apparatus for collecting rubber, on condition of receiving the whole of the rubber collected at a certain rate. The rubber-hunters are termed *Uleros* (*Ule* being the Creole term for rubber). A party of Uleros, after a final debauch at Greytown, having expended all their remaining cash, generally make a start in a canoe for one of the rivers or streams which abound on the coast, and having fixed on a convenient spot for a camp, commence operations. The experienced rubber-hunter marks out all the trees in the neighborhood. The rubber-tree is the *Castilloa elastica*, which grows to a great size, being on an average about four feet in diameter, and from twenty to thirty feet to the first spring of the branches. From all the trees in the almost impenetrable jungle hang numerous trailing parasites, lianes, etc.; from these, and especially the tough vines, are made rude ladders, which are suspended close to the trunks of the trees selected, which are now slashed by machetes in diagonal cuts from right to left, so as to meet in the middle and central channels, which lead into iron gutters driven in below, and these again into the wooden pails. The pails are soon full of the white milk, and are emptied into larger tin pans. The milk is next pressed through a sieve, and subsequently coagulated by a judicious application of the juice of a Bejuca (an *Apocyna*) vine. The coagulated mass is then pressed by hand, and finally rolled out on a board with a wooden roller. The rubber has now assumed the form of a large pancake, nearly two feet in diameter, and about a quarter of an

inch thick, on account of which they are termed *tortillas* by the Ulero s; those cakes are hung over the side poles and framework which supports the *rancho*, which is erected in the woods, and allowed to dry for about a fortnight, when they are ready to be packed for delivery to the dealer.—*Scientific American.*

SUPPOSITORIES.

Mr. Frank R. Partridge (*Druggists' Circular*, Sept. 1871) believes suppositories can be best prepared without the use of moulds, and writes as follows:—

Take cocoa-butter, which has been kept in a cool place, and powder it in a Wedgewood mortar. This can be done with proper care and sufficient trituration. Having reduced the butter to a uniform powder, mix with it the medicament prescribed. If an extract is directed, enough finely powdered slippery elm-bark (this is the best article for the purpose, as it is the least irritating) should be rubbed with it, to make the extract a damp powder. In all cases the medicament should be thoroughly powdered before mixing with the butter. After completely incorporating the medicament and excipient, make the whole into a mass by the aid of *very little* heat; the breath is sufficient in hot weather. Then, by putting the mass into a soft cotton cloth, it may be worked in the hands with as much ease as a good pill mass. After dividing it into the required number of parts, which can be more accurately done on a pill tile, mould them into the shape of a Minié rifle ball with the fingers, keeping the cloth between the suppository and the skin, thus rendering the moulding easy and preventing the mass from melting.

The quantity of cocoa-butter I generally use for a vaginal suppository is one drachm. A suppository made in this way will be ready for use almost as soon as it is moulded, will remain hard and not crumble. I have made them in this manner when the thermometer ranged from 90° to 98°, and have found no trouble. They soon harden, and remain in that condition till used.

METHOD OF DETERMINING THE VALUE OF CASTOR.

M. Hagen gives the following:—

1. The castor of Siberia is much more valuable than that of Canada, because it is richer in castorine, containing 4.6 per cent., whilst the Canadian has only 1.98.

The castorine, mixed with a little volatile oil, is easily obtained by using pure benzine as an extractor.

2. Treated with chloroform, castor yields a brown resin, which is dry and of a free (franche) odor, as obtained from the Canadian variety—more viscous and with a stronger odor when procured from the Siberian.

3. When the powdered castor is treated with alcohol, then with dilute hydrochloric acid, there is obtained, in from 10 to 20 hours, a liquid, which is yellowish or clear brown from the Canadian variety, deep brown with the Siberian.

4. The Canadian variety, powdered and macerated for some hours in an ammoniacal solution, gives a liquid more deep-colored than the Siberian.

5. The alcoholic tincture added to water gives a milky fluid; will on the addition of ammonia become clear, if the tincture was made with Siberian castor; on the contrary, not.—*L'Union Pharmaceutique*, August, 1871.

ERGOT OF RYE.

BY T. C. HERRMANN.

The following abstract of a paper by Dr. T. C. Herrmann, originally published in *Büchners Repertorium für Pharmacie*, 1871, p. 283, is taken from the *London Pharmaceutical Journal*:—

Although ergot of rye has been repeatedly subjected to chemical analysis, there are several questions touching its component parts which have not been fully explained, and for this reason Dr. Herrmann has chosen the subject for his inaugural dissertation.

One of the constituents of ergot which required further iuvestigation is the fatty oil, which, though not differing from other oils in general characteristics, is peculiar so far, as, according to Manassewitz, it readily saponifies with caustic soda, but not at all with caustic potash; this statement Dr. Herrmann was enabled by his investigation to distinctly contradict.

Twenty ounces of powdered ergot were exhausted with ether, the last separated by distillation, and the oil, which amounted to 6 ounces, subjected to analysis. It was of a brownish yellow color, of aromatic flavor, and acrid taste, viscid, and its sp. gr. was .9249; it was not drying.

It consisted chiefly of palmitic acid, oleic acid, and glycerine, in the proportion of 22.703 per cent. palmitic acid, 69.205 oleic acid, and 8.091 glycerine; it also contains traces of acetic and butyric acid, of trimethylamin, ammonia, and ergotine as coloring matter.

Manassewitz doubted the existence of ecboline, the alkaloid first separated by Wendell, and Dr. Herrmann also settled this point.

Thirty ounces of powdered ergot were for several days digested with warm water, the aqueous extract mixed with acetate of lead, and the precipitate separated by filtration; excess of lead in the filtrate was separated by carbonate of soda, which, however, did not precipitate all the lead, the liquid remaining turbid even after filtration; it was therefore slightly acidified with muriatic acid and then dilute sulphuric acid added, which gave a clear solution; to this an excess of chloride of mercury was added, the dirty white precipitate was collected on a filter, and the alkaloid ecboline separated in the usual manner. It is soluble in water and alcohol, has a bitter taste and an alkaline reaction, and is precipitated in the following manner, viz., by chloride of mercury white, phosphoric molybdic acid yellow, tannin dirty white, biniodide of potassium reddish brown, chloride of gold brownish, chloride of platinum orange, only after some time, and cyanide of potassium white.

The inorganic constituents of ergot were also determined afresh, and the following table gives a comparison of former analyses with Dr. Herrmann's results, viz.:—

	Engelmann.	Manassewitz.	Thelau.	Herrmann.
Potash	38.97	38.00	17.92	30.06
Soda	14.39	14.75	11.42	0.65
Lime	1.43	1.50	1.24	1.38
Magnesia	4.58	4.70	2.00	4.87
Alumina	....	....	0.29	0.58
Oxide of iron	2.00	1.80	0.70	0.86
Oxide of manganese	....	....	3.95	0.26
Oxide of copper	....	....	0.53	....
Phosphoric acid	13.24	13.25	58.56	45.12
Sulphuric acid	0.02	....	....	....
Chlorine	2.03	2.10	....	....
Silica	9.13	3.30	2.54	14.67
Carbon	12.66	12.10	....	....
Chloride of sodium	....	....	0.66	1.50
Total	98.45	96.50	99.91	99.95

CHEMICAL STUDY OF THE ALKALOIDS OF OPIUM.

Dr. O. Hesse, having at his disposal a large amount of mother-liquor of opium, out of which the morphia, codeia, and pseudo-morphia had been separated, tried the methods for obtaining the new alkaloids, kryptopia, laudania codamia, lanthopia, and meconidia. The black mother-liquor was diluted with an equal volume of water, treated with ammonia in excess, etc., as described in *Annal. Chem. et Pharm.*, cliii. 47. It was found that the alkaloids could be separated into two groups by using natron, the one set dissolving, the other remaining.

The alkaline solution of the alkaloids contained a little lanthopia, no codeia (it having been previously separated), no mekonidia, very little codamia, but a quantity of laudania. The last was easily obtained if the solution was precipitated by excess of ammonia and the precipitate dissolved in hot alcohol, out of which, on cooling, crystallized white crystals, from which the laudania could be separated by means of hydriodic acid. Dr. Hesse, from his new experiments, considers the melting-point of laudania 166° (C.?), its formula $C_{20}H_{25}NO_4$. Codamia has a melting-point of 126°; its formula was not made out with certainty.

The residue, insoluble in natron, was dissolved in acetic acid, the solution with the addition of alcohol sufficiently neutralized, and papaverin and narcotine crystallized out. They were separated by means of oxalic acid. The formula obtained for narcotia was $C_{22}H_{23}NO_7$; the melting-point 176° C.

The papaverin had the formula $C_{21}H_{21}NO_4$. Small quantities of it, perfectly pure, dissolved without color in concentrated sulphuric acid. In larger quantities a blue solution resulted, whilst the rise in temperature indicated destruction of the base by the acid. When water is added the sulphate of papaverin separates as a resinous mass out of its sulphuric acid solution, a behavior which distinguishes it from all other opium alkaloids; for although pseudo-morphia affords a precipitate under like circumstances, it is in the form of a crystalline powder.

Even dilute nitric acid acts on papaverin, forming nitro-papaverin ($C_{21}H_{20}(NO_2)NO_4$), which crystallizes in colorless, very thin prisms, which exposed to light rapidly becomes yellow, and melts at 163° C. This nitro-derivative forms beautiful crystalline salts with acids.

The neutralized acetic solution left after deposition of papaverin and narcotia contains thebaia, which, on addition of powdered tartaric acid, separates as a bitartrate, which is soluble in concentrated sulphuric acid.

Hesse was also successful in obtaining from the dark solution protopia, laudanosia, and hydrocotarma.

Cryptopia, $C_{21}H_{23}NO_5$, melts at 217° C., is readily soluble in chloroform, with difficulty in alcohol, insoluble in ether. It has a strong alkaline reaction, makes salts which are at first gelatinous, afterwards crystalline. Out of cold neutral solutions it is thrown by concentrated hydrochloric acid as a gelatinous mass, not as fine prisms.

Protopia, $C_{20}H_{19}NO_5$. Is very similar to the last; its salts do not gelatinize; its melting-point is 202° C.

Laudanosia, $C_{21}H_{27}NO_4$. Alkaline; melting-point 89° C. In prisms; soluble with difficulty in cold benzine; easily in hot. Alcohol

dissolves it when pure very readily, and deposits it in crystals. Out of ether, which also dissolves it easily, it is obtained in white cauliflower-like masses.

Hydrocotarnia, $C_{12}H_{15}NO_3$, crystallizes in colorless prisms, with ½ part water of crystallization; at 100° C. it undergoes partial decomposition, and at a higher heat gives off fumes with a penetrating smell of raw carbolic acid. Alcohol and ether dissolve it easily. It makes salts soluble in spirits of wine and water.—*Zeitschrift des Oester. Apotheker Vereins*, Sept., 1871. *Berichte der Deutsch. Chem. Gesell. zu Berlin*, Bd. iv. s. 693.

Reaction to Distinguish German and English Atropine.—By H. Bullot.—If to an aqueous solution of atropine acidulated with sulphuric acid an aqueous solution of picric acid be added, a precipitate will not form if the preparation be good English atropine; if the alkaloid has been obtained by the method of Simon, there will be a very slight precipitate; if a German alkaloid has been used, an abundant yellow precipitate will fall. This looks as though the German alkaloid was really composed of two alkaloids; but the fact that it acts upon the pupil precisely as the English does, and, unlike the belladonine of Huebschmann, does not cause a painful feeling in the eye, makes any such supposition doubtful.—*Revue de Thérapeutique Medico-Chirurg.*, August, 1871.

New Test for Alcohol.—Dr. Berthelot says that when benzoic chloride is put in contact with water it only very slowly decomposes; but if any alcohol be present (even 1 in 1000) benzoic ether is formed at once; this ether is set free by a drop of aqueous solution of caustic potassa, and is at once manifested by its peculiar odor.—*Journal de Pharmacie et de Chimie*, No. 3, Sept., 1871.

Tanisic Acid as a Substitute for Santonin.—M. Frosini Merletta proposes tanisic acid as a substitute for santonin, given as a vermifuge, in the same doses as the latter. It and its salts are all crystallizable. Its taste is bitter and acrid. It is insoluble in water, but soluble in alcohol and ether. M. Merletta prepares it by distilling the tops of tanacetum vulgare, evaporating the filtered residue to consistence of honey. Treated with chalk and animal charcoal, it is first dried, and then dissolved in water at first acidulated with muriatic acid, then with acetic acid. The tanisic acid is afterwards deposited in colorless crystals.—*Bulletin Général de Thérapeut.*, Nov. 15, 1871.

Carlo Paresi's Method of Concealing the Taste of Cod-Liver Oil.—Cod-liver treated in the following manner becomes amber-colored, and has the odor and taste of coffee. The fishy taste is almost entirely masked.

Take 400 parts of cod-liver,
10 " animal charcoal,
20 " roasted coffee (ground).

Mix them thoroughly in a glass matrass, and heat in a water-bath for quarter of an hour, to temperature of 50° to 60° C., taking care to stop the mouth of the matrass. Then take the mixture off the fire and allow it to stand for three days, shaking it occasionally. Then filter, and the oil is ready for use. It must be kept in well-stopped bottles.—*Bulletin Général de Thérap.*, Nov. 15, 1871.

Bromohydrates of Quinine and Cinchonine.—M. Latour has prepared neutral salts by the action of a solution of bromide of potassium upon a slightly acidulated solution of sulphate of the alkaloid. To prepare basic salts, the neutral sulphates are dissolved in a menstruum composed of equal parts of water and alcohol, and this solution is treated first with a very dilute water of ammonia, and afterwards with a solution of the neutral bromohydrate.—*Revue de Thérapeut. Medico-Chirurg.*, Nov. 1, 1871.

Sugar of Milk in a Vegetable Juice.—M. M. G. Bouchardat has discovered in the juice of the fruit of the sapota tree (*Achras Sapota*) a crystalline saccharine substance perfectly identical with the sugar obtained from the lacteal secretion of the mammifera.—*La Revue Scientifique*, Aug. 26, 1871.

Quantitative Determination of Iodine.—William Reinage proposes a new method for the quantitative determination of iodine, founded upon the decomposition of the permanganate of potash by iodide of potassium. As neither chlorine nor bromine exhibits the same reaction, this method would appear to be the best for the quantitative analysis of iodine compounds. Take a solution of an iodine salt, add a little sulphuric acid to neutralize the excess of alkali, or render slightly alkaline by means of carbonate of potash or soda; then heat to gentle boiling in a beaker-glass, and gradually add a solution composed of 2.5 grammes permanganate of potash dissolved in 497.5 grammes distilled water, until all of the iodide of potassium is decomposed. The quantity of permanganate consumed will give the amount of iodine, for every gramme of it represents two milligrammes of iodine. The accuracy of the analysis is not destroyed by the presence of bromine or chlorine in the solutions.—*Scientific American.*

Acetic Ether.—Alcohol in acetic ether is detected, according to Frederking, by agitating the ether with an equal volume of glycerine, which dissolves the alcohol only. For obtaining absolute acetic ether, the crude distillate containing water and alcohol may be treated to glycerine previous to rectification.—*Pharm. Zeitschr. f. Russl.*

Sulphur in the United States.—On the shores of the Mississippi, below New Orleans, two miles from the sea, in making an artesian boring, a stratum of pure sulphur, 100 feet thick, was discovered at the depth of 543 feet.—*Zeitschrift des Oesterr. Apothek. Vereins*, October 1, 1871.

Adulteration of Coffee.—Mr. Armand Muller received some green Rio coffee, which, when prepared in the usual way, yielded a decoction of such peculiar taste as to cause him to believe that it was adulterated. Close examination showed that it contained some 27 per cent. of beans, whose outward appearance was precisely that of the coffee bean, but which, when moistened, swelled up into soft irregular masses. Chemical examination showed they were imitation beans made out of bread, probably fresh, pressed into form and colored.—*Chem. Central-Blatt*, iii. *Folge*, ii. *Jahrg.* No. 37, s. 389.

Determination and Characteristics of Citric Acid.—By H. Kämmerer.—Soluble citrates mixed with acetate of baryta, either hot or cold, produce a white amorphous precipitate, being 3 BaO, 2 $C_{12}H_5O_{11}$, 3 Ho, +14 aq.

If, after precipitation, an excess of acetate of baryta be added, and the mixture heated in a water-bath, the precipitate becomes heavy and granular, it loses one-half of its water of crystallization, and has now the composition 3 BaO, 2 $C_{12}H_5O_{11}$, 3 Ho +7 aq.

The presence of other organic acids does not interfere; the granular salt is absolutely insoluble in water, and citric acid may thus be easily determined. If the solutions are very dilute they must be concentrated by evaporation, after additions of acetate of baryta, or the precipitate will consist of crystalline needles containing only 5 aq.—*Zeitschr. für Analyt. Chemie*, viii. p. 298. *Pharmaceutical Journal and Transactions.*

Oil of Andromeda Leschenaultii.—According to Mr. Broughton, the herb Andromeda Leschenaultii grows in great profusion on the Neilgherry hills of India, and its oil can be produced at small cost and in inexhaustible quantity. The oil is almost identical with that of Gaultheria procumbens, but is finer. Carbolic acid of absolute purity is readily prepared from it.—*Pharmaceutical Journal*, October 7, 1871.

Freezing-Point of Mixtures of Glycerin and Water.—The freezing-point of mixtures of glycerin and water has been examined by C. Budock. The glycerin used was the common commercial article, of a specific gravity=1.250:—

One gallon of water with ½ a pint glycerin freezes at	30° F.
One gallon of water with 1 pint glycerin freezes at	24°
One gallon of water with 1½ pint glycerin freezes at	18°
One gallon of water with 2 pints glycerin freezes at	10°
One gallon of water with 3 pints glycerin remains fluid at	3°

—*Journal of Applied Chemistry*, November, 1871.

Newton's (English) Process of Extracting Hops.—The process is based upon his discovery that the light products of petroleum, naphtha, etc., are rapid and complete solvents of the essential oils and of the bitter principle of hops, while at the same time they have no solvent action on the other constituents of the plant, which are either useless or hurtful. The hops are simply steeped in the naphtha, under a moderate heat. The apparatus employed is similar to that used for bisulphide of carbon when employed for similar purposes. The lighter hydro-carbons, which boil at 100° Fahr., are preferable for this purpose.—*Boston Journ. of Chemistry*, Dec., 1871.

Yellow Glass for Bottles.—In the *Zeitschrift des Allgem. Oesterr. Apoth. Vereins* of Nov. 1, yellow glass is commended for containing mixtures, etc., liable to be acted on by light. The absolute want of chemical power of yellow rays has long been known, and bottles made of such colored glass are much handsomer and show any dirt or sediment much more plainly than when black or very dark blue glass is employed.

Method of Detecting Fat Acids in Oils.—By M. Jacobsen.—The oil suspected is to have rosaniline dissolved in by aid of the heat of a salt-water bath.

If a neutral oil be pure its color remains unchanged; if it be rancid it changes to a pale red; if it contain oleic or other fatty acid the color becomes very deep.

This reaction is chiefly valuable in testing the purity of olive oil and almond oil.—*L'Union Pharmaceutique*, Nov., 1871.

Incompatibles with the Perchloride of Iron.—The following list is given (*L'Union Pharmaceutique*) by M. Bouilhon:—

Salts of silver; protosalts of mercury; alkalies, their carbonates and bicarbonates; the arsenites and arseniates; borate of soda; tannin and vegetable astringents; gums; vegetable extracts and vegetable infusions; albumen; casein.

Purgative Principles of Senna.—In *L' Union Pharmaceutique*, Nov., 1871, is a paper of some length on the Chemistry of Senna, by Bourgoies and Bouchut, in which they arrive at the conclusion that there is in it at least two purgative principles besides *chrysophanic acid.* One of these is *cathartic acid;* the other a matter, probably complex, obtained first by Lassaigne and Feneulle, and improperly called *cathartine.*

Benzol to Distinguish from Benzine.—Mr. J. Brandberg states that benzol may be distinguished from benzine by the fact that it dissolves pitch with great readiness, whilst benzine only does so with great difficulty.—*Pharmaceut. Zeitschrift für Russland*, Nov. 6, 1871.

Strength of Wines.

MR. BRANDE'S TABLE.

Rectified Spirit (.825 density) *by volume in* 100.

Scotch Whiskey	54.32	Mean	20.35	Burgundy—	
Irish Whiskey	53.90	Weakest	18.40	Strongest	16.60
Rum	53.68	Constantia, white	19.75	Mean	14.57
Brandy	53.39	Lachryma Christi	19.70	Weakest	11.95
Hollands	51.60	Sherry—		Tincture	14.22
Life Wine—		Strongest	19.89	Barsal	13.86
Strongest	36.47	Mean	19.17	Champagne, still	13.30
Mean	25.41	Weakest	18.25	" sparkling	12.80
Weakest	24.45	Vidonia	19.25	Tent	13.30
Marsala Wine—		Lisbon	18.94	Rives Altes	12.79
Strongest	26.03	Bricellas	18.49	Vin de Grave—	
Mean	25.09	Constantia, red	18.92	Strongest	13.94
Weakest	24.05	Calcavada—		Mean	13.37
Raisin Wine—		Strongest	19.20	Weakest	12.80
Strongest	26.40	Mean	18.65	Côte Rôtie	12.32
Mean	25.12	Weakest	18.10	Red Hermitage	12.72
Weakest	23.20	Cape Muscat	18.25	Gooseberry Wine	11.84
Port—		Roussillon—		Hock—	
Strongest	25.89	Strongest	19.00	Strongest	14.37
Mean	22 98	Mean	18.13	Mean	11.93
Weakest	21.40	Weakest	17.26	Weakest	11.70
Madeira—		Grape Wine	18.11	Orange Wine	11.26
Strongest	24.43	Malaga—		Tokay	9.88
Mean	24.17	Strongest	18.04	Elder Wine	8.76
Weakest	23.93	Mean	18.10	Cydis—	
Currant Wine	20.55	Weakest	17.26	Strongest	9.87
Cape Madeira—		White Hermitage	17.43	Mean	7.56
Strongest	22.94	Alba Flora	17.26	Weakest	5.21
Mean	20.51	Zante	17.05	Perry	7.26
Weakest	18.11	Malmsey	16.40	Burton Ale	8.88
Social	21.40	Shiraz	15.52	Edinburgh Ale	6.22
Strongest	22.30	Lund	15.52	Dorchester Ale	5.56
Mean	20.34	Syracuse	15.28	Average of Ales	6.87
Weakest	19.24	Claret—		Brown Stout	6.80
Teneriffe	19.79	Strongest	17.11	London Porter	4.20
Celeras	19.75	Mean	15.10	Small Beer	1.28
Red Madeira—		Weakest	12.91		
Strongest	22.30	Nice	14.63		

—*Journal of Mat. Medica.*

TOXICOLOGY.

TUTU PLANT OF NEW ZEALAND—CORIARIA NESCIFOLIA.

Mr. H. G. Hughes has a not very clear paper in London *Pharmaceutical Journal* of October 7, on this plant. He made a number of attempts, but failed, to separate with certainty the active principle. One of the most satisfactory analyses and results are given as follows:—

"To an alcoholic extract of the seeds a little powdered lime was added and mixed, and the whole well washed with alcohol, ether, and chloroform in succession. Neither of the latter two yielded anything upon spontaneous evaporation. The alcoholic solution was evaporated; the residue treated with acid sulph. dil., filtered, and pot. carb. added in excess, causing a flocculent precipitate. The solution separated, the precipitate was treated with alcohol and filtered. As the solution became more concentrated, a heavy olive-colored oily fluid separated. Some shoots of the tree, gathered 3d December, 1869, also yielded this oily fluid. It is of a most poisonous nature, half a drop administered to a terrier exciting most severe symptoms (vomiting and convulsions). After further concentration, ether was added, when a yellowish precipitate formed, the oily fluid separating of a clear olive-green color. As the ether volatilized, the precipitate was redissolved by the alcohol; the oily fluid remained. Chloroform added caused a pure snow-white precipitate, which floated, the oil still remaining unaffected. It was then separated from the precipitate, dissolved in alcohol, and filtered. Upon evaporating spontaneously, it deposited feathery crystals of a dingy color (impure or contaminated with the oily fluid). Before all the alcohol had evaporated, chloroform always gave a pure snow-white precipitate. The crystals were extremely deliquescent. I thought this oily-looking fluid was a liquid alkaloid similar to conia. It was soluble in alcohol, but insoluble in both ether and chloroform. The alcoholic solution of this oily substance and white alkaloid possessed very energetic properties, an all but inappreciable quantity bringing on, almost immediately, a very distressing suffocating sensation, and an unpleasant feeling of roughness and insensibility of the palate. Not any of the fragrant oil was found.

"It is very remarkable that this oily fluid is perfectly insoluble both in ether and chloroform, and soluble in alcohol and a mixture of alcohol and water; and whatever the poisonous principle or principles may be, that slaked lime made into a thin cream with water instantly destroys it or them, with or accompanied by the evolution of ammoniacal vapor."

The poisonous extract was found to be very unstable, undergoing almost complete spontaneous decomposition in four days, it becoming more fluid and physiologically inert.

"Acetic acid fixes or preserves the poisonous property (for a time, at least), arresting its decomposition. When lime is added to good extract (poisonous), strong ammoniacal vapor is evolved; but on the fourth day, in the lime mixed with it, although possessing the odor of the essential oil, not the slightest trace of ammonia can be detected; the oil also, when destroyed by the lime, not giving any ammoniacal vapor, indicates it to be of a different composition, and a non-nitrogenous oil. The decomposition of the poisonous principle, resulting in the evolution of ammonia, shows nitrogen to be present in it. The fragrant oil comes over at 212° F., the poisonous principle at between 350° and 400° F."

Dr. Acheson made a number of experiments upon animals, and reports the general symptoms to be those of strychnine poisoning, with the addition of severe vomiting. Lime he found to be a complete antidote.

We quote a single experiment:—

"I administered about a drachm of fresh extract to two dogs. To one of the dogs the extract was given in a mixture of lime and water. It remained in the stomach for several minutes before vomiting commenced. After the expiration of half an hour from the cessation of vomiting, we determined to administer a drachm of the extract alone, being merely dissolved in a little water. This he retained for twenty minutes without any vomiting taking place. We then administered to him a quantity of lime mixture. He never showed the slightest symptom of poisoning. To the other dog the extract was given in a quantity of water merely. A few minutes after administration symptoms of poisoning commenced, and in twenty minutes he had a regular attack of pure tetanic convulsions. Immediately after the first paroxysm we emptied into the stomach a quantity of the lime mixture, after which he had one severe fit, from which he recovered rapidly, and in the course of a very short period he was perfectly free from all symptoms of poisoning."

POISONING BY WATER HEMLOCK—CICUTA VIROSA.

BY HENRY WILSON, M.R.C.S.

T. G., æt. 48, a farm laborer, dined, on January 8, off boiled meats and parsnips. The frost being very severe, he had extracted the roots from the ground with a pickaxe, and among them one which he thought at first was horse-radish, but, finding it had a sweetish taste, cooked it with the rest and ate it. He described it as being four or five inches in length and little larger in circumference than his thumb. I was shown two small pieces of rootlet; their taste was a peculiar sweet somewhat resembling that of liquorice; they were of the exact color of parsnips. At 12.30 he dined. At 1 went to his work, which he had no sooner commenced than he felt giddiness and dryness of throat. Suspecting poisoning, he started immediately for home. He walked the distance (about a quarter of a mile) with great difficulty, his legs being very unsteady in their movements, and all surrounding objects appearing as if they were alternately receding and advancing. He sat down in a chair, where I found him at 2 P. M.; the lower extremities were numbed—not insensitive, but completely paralyzed. His arms felt numbed, and their movements were weak. He had an anxious expression and flushed countenance, and declared he should die. Skin warm and dry; pulse 90. Ten grains of sulphate of copper vomited him at once. At 4 P.M. he was able to stand, and with difficulty walked across the room. Between this time and 6 P.M. he passed large quantities of urine, and had hallucinations, at times feeling very cold. At 8 P.M. in bed; extremities cold; pupils dilated; pulse 90; skin and throat very dry; no actions; delirious at times during the night.—*London Lancet*, Sept. 16, 1871.

POISONING BY LABURNUM (CYTISUS LABURNUM.)

BY H. WILSON.

At 11 P.M., August 4, 1871, I was called to see H. S., 4 years old. His father stated he was suffering from eating laburnum seeds 3 hours before; number not certainly known. About half an hour after eating the seeds he began to vomit, first food, afterwards mucus, and continued to do so occasionally till my arrival. At 10 P.M. he became very drowsy, and was seized with convulsions. His mother stated that every few minutes he shook violently and drew up his legs. At 11 P.M. convulsions had ceased; he was very drowsy, but readily roused for a moment; both pupils were widely dilated; pulse small—85; surface

cold, especially extremities. He got no treatment excepting warm milk and water, both by stomach and bowels, and at midnight was in calm sleep: the next day well.—*London Lancet*, Sept. 16, 1871.

POISONING BY THE LOCAL APPLICATION OF BICHLORIDE OF MERCURY.

Dr. Muns reports the following case more in detail in the *Lancet* of Sept. 16.

Miss Harriet F——, aged 9, was brought to Dr. Muns, August 21, suffering from tinea tonsurans. On August 28 the note is: The disease seemed spreading, and I proposed as a speedy cure the application of bichloride of mercury, as recommended by Dr. Tilbury Fox. With a small camel's-hair brush I applied the solution to each of the patches. A little of the solution was accidentally allowed to escape in the sulcus behind the left ear. No pain was felt before the child left the room.

Monday evening.—There had been considerable pain, sharp diarrhœa, and sickness. The painted surfaces were blistered.

Tuesday morning.—Child had passed a bad night; the bowels were relaxed, and everything, except cold water, induced sickness.

Tuesday evening.—There was marked salivation and a general puffiness of the face. The salivation and prostration grew worse steadily until Thursday evening, when it was thought that the swelling of the glands was rather lessening; but in the night the patient got out of bed unassisted, went to the night-stool, fainted, and could not be rallied. The treatment consisted throughout of exhibition of morphia, stimulants and beef tea, milk and similar articles of food.—*London Lancet*, Sept. 16, 1871.

ON THE RECOGNITION OF CONIA AFTER POISONING BY CONIUM MACULATUM.

The entrails of a man poisoned with conium maculatum were given by the magistrate to some apothecaries in G—— for conia to be sought for. After careful experiment, the apothecaries stated that not all the reactions of the alkaloid were perceivable, and therefore it must remain doubtful whether it was present or not. The intestines were then sent to Prof. N., of N——, who affirmed the presence of the alkaloid. The magistrate then asked for an opinion from the provincial medical society and that of Berlin. The report of these two authorities was

substantially as follows:—The experts E. and M. on the one side, and N. on the other side, have used different methods in looking for the conia. The two first have practised the method of Duflos, the last that of Stas. Both methods aim at obtaining the pure conia, that it may be recognized by its own properties.

According to the first method the contents of the gut are decomposed by baryta water, and the liberated alkaloid taken up by concentrated alcohol and formed into an oxalate by the addition of oxalic acid. Out of the oxalate evaporated almost to dryness the conium is set free by an excess of magnesia, and distilled at a temperature of 130°–140° C., into a retort.

In the second method the bowels' contents are treated with water and sulphuric acid, and the solution of the sulphate of conia obtained is evaporated to a syrupy consistency.

Out of the residue the sulphate is dissolved in absolute alcohol, and the solution evaporated in vacuo. The acid residue is treated with ether until the ether, in which the sulphate is almost insoluble, will take up nothing more. The purified sulphate is then decomposed with an alkali, and the liberated conia dissolved with ether.

The liquid remaining on the evaporation of the ether can then be examined with reagents.

When Herren E. and M. treated the remains in the first way, they obtained an alkaline fluid, in which they sought for chemical evidence of the presence of conia; but this search yielded them no definite result.

Proceeding in accordance with the second method, Herr N. obtained an alkaline fluid, in which he believed that he recognized conia for the following reasons:—

1. The smell was disagreeable, resembling that of mice and of conia, and the taste sharp and tobacco-like.

2. A glass rod, moistened with muriatic acid, surrounded itself with white heavy cloud when brought near to the fluid.

3. A drop of the solution placed upon a slide gave, with solution of silver, a white precipitate, out of which, on standing, metallic silver separated.

4. Solution of iodine produced a brownish red precipitate, which afterwards became clear.

5. The solution in muriatic acid, allowed to evaporate on a slide, gave a crystalline mass, which, under the microscope, showed with the polarizing apparatus a beautiful play of colors.

6. The same solution gave with chloride of platinum oily drops, which, after standing, formed red pillars, which were free from regular crystals.

7. Tannin produced a whitish turbidity.

8. Chloride of palladium produced a brownish-red precipitate.

9. Treated with chlorate of potash and sulphuric acid, the odor of butyric acid was evolved.

The reactions here given certainly all belong to conia, but the majority of them are in no sense peculiar to it. As to the odor and taste, even if no other alkaloid possessed such, yet the perception of such taste and smell, especially the latter, is so liable to error as to make it emphatically untrustworthy. This remark also applies to the asserted production of butyric acid (No. 9). Butyric acid is not to be distinguished by smell from (Capron-Säure), and, if in small quantity, might very readily be confounded with impure acetic acid.

The formation (2) of the cloud on the approach of hydrochloric acid happens wherever any volatile base is present.

The action with the silver solution (3) is common to very many alkaloids, as is also reaction No. 4.

Nor is the evidence of the polariscope (No. 5) more trustworthy, as the appearances are presented by numerous crystalline bodies; the sulphates of trimethylamin or triathylamin might, for instance, have been present and caused the appearances.

The precipitates in 6, 7, and 8 might be yielded by numerous alkaloids.

In order to recognize with certainty conia, it is necessary to have recourse to the physiological test, which none of the experts applied.

In conclusion, the answer of the apothecaries first applied to seems the more correct.— *Vierteljahrschrift für Prakt. Pharmacie*, Oct. 1st, 1871.

AN EXCESSIVE DOSE OF CHLORAL.

Dr. James Rodman, of Hopkinsville, Ky., relates the following case in the *American Practitioner:*—

Owing to a mistake of the nurse, the patient, an insane gentleman, had taken 270 grains in less than two hours. Deep sleep followed, which was not regarded with concern by the attendants until seven or eight hours had elapsed. Dr. R. then found him sleeping heavily, but quietly, his skin rather warmer than natural, pulse less frequent than in health, but full and strong; his pupils were sluggish and contracted, conjunctiva injected, respiration normal in character and fifteen in a minute, and he could with difficulty be aroused to any sense of his surroundings. Sleep continued eighteen hours, during which time the

patient was aroused only occasionally by considerable effort, and swallowed a little water.

The treatment consisted of cold effusions to the head, not frequently repeated, and he was walked at short intervals between two assistants, and vapor of ammonia applied to his nostrils. When the patient awakened, he presented the appearance of a man recovering from profound alcoholic intoxication. There was no headache nor nausea. He had a keen appetite, healthy pulse, warm extremities, but a constant sense of chilliness, that passed away in a few hours.

SNAKE-BITES.

We need not wonder at the eagerness with which physicians and authorities in India examine every new remedy put forth as an antidote to the poison of a snake-bite, when we learn that in British India, including British Burmah, the deaths from snake-bite during the past three years amount to 25,664. This statement appears in an official report published in the *Gazette of India*. From that report we also learn that during the same period the deaths resulting from the attacks of all kinds of wild beasts in the same area numbered 12,554. The snakes killed more than twice as many as were slain by the tigers and all the other fierce forest rangers put together. Truly the serpent is still "more subtle than all the beasts of the field."—*Chemist and Druggist.*

According to the *Indian Medical Gazette*, the Inspector of Police reported that of 939 cases of snake-bites in which ammonia was administered by the police, 702 are reported to have recovered, and the average length of the time between the bite and the application of the ammonia is said to have been, in fatal cases, 4h. 12m. 13s., and in cases of recovery 3h. 28m. 14s.—*Nature*, Nov. 30, '71.

POISONING WITH OUNCE EACH OF CHLOROFORM AND ETHER AND EIGHT GRAINS OF MORPHIA.—RECOVERY.

In the Nashville *Journal of Medicine and Surgery* for December, 1871, Dr. E. L. McTyre, of Capivany, Brazil, says:—

A short time since, I was called to attend a man, aged 30 years, who, for the purpose of self-destruction, had taken, at a dose, and without dilution, an ounce each of chloroform and sulphuric ether, and eight grains of morphine. For two days previous to the occurrence he had refused all food, and, consequently, the stomach was in a proper condition to be readily impressed with the medicines.

He swallowed the potion at seven o'clock in the morning. His family were attracted to the room at once from hearing him coughing spasmodically, and on being asked what was the matter, he pointed to the empty vials, labelled with the names of the medicines, standing on a table near him. An hour passed before an attempt was made to give him anything, when some person present suggested the idea of giving him vinegar and water, of which he swallowed a few spoonfuls. His condition appeared so hopeless to the family that they thought he could not survive until a messenger could reach a physician, being distant eighteen miles to the nearest.

At noon, finding he did not die, I was sent for, and reached the house of the patient at five o'clock in the evening, ten hours after he had taken the mixture. Found him covered with a profuse perspiration; pulse quick and full; eyes insensible to light, and pupils very contracted; stertorous respiration, with mucous rattle; in short, having all the symptoms of profound narcotism.

I attempted to give him some water, for the purpose of seeing if he could be made to swallow an emetic, but, on trial, I found I could not do anything in this way. I proceeded then to apply mustard to the spine, extremities, and chest, and although the mustard plasters caused vivid redness of the skin wherever applied, the patient showed no disposition to merge from the comatose sleep.

At seven o'clock, finding no improvement, it occurred to me to try the effects of dressing him in clothing saturated with a strong infusion of coffee, after the same manner that we use iodide of potassium, sulphur, etc.

A strong infusion of coffee was prepared, and a linen shirt and pair of drawers were allowed to remain in this for half an hour, and being partially dried, were put on him, and then covered with two blankets. In about thirty minutes the patient moved uneasily about in the bed, and again became quiet. Ten minutes after this he turned suddenly to one side, and vomited profusely, and asked for water. During the next hour he vomited frequently and freely.

For the purpose of combating the effects of the morphine, I gave him, during the night, one drachm of bromide of potassium in divided doses.

When once aroused from the comatose state, he evinced no disposition to return to it, but conversed naturally, and during the rest of the night slept very little. I feared he would suffer from the irritant effects of the undiluted chloroform, on the coats of the stomach, but up to nine o'clock next day he made no complaint. I have since heard he recovered without an untoward symptom.

LIGHTNING STROKE.

Dr. C. H. Alden, U.S.A., reports (Circular No. 3) a case, of which the following contains the essential outlines. E. W., aged 60, was struck whilst on horseback, and very shortly afterwards brought in. The horse was killed. The man was totally insensible but very restless, tossing, and resisting efforts to remove his wet clothing. His surface and extremities were cold, his pulse very small and feeble. There was a superficial, nearly vertical wound of the right scalp, looking as though made with a sharp point; a chain of large, irregular vesicated spots extended down the right ear over the neck, chest, and abdomen to the penis. There was also a similar spot on the right thigh and superficial abrasions on both thighs. His felt hat was much torn and burnt of the right side, his pantaloons burnt corresponding to the thigh wounds; his shirt somewhat torn in front. He was wrapt in blankets, and whiskey administered, which he swallowed without difficulty. In the afternoon slight vomiting occurred, and his pulse grew stronger and fuller. During the evening and much of the night, he was restless, muttering incoherently, and having involuntary passages. The next day his condition was much the same, but he was quiet a good deal of the time, and his pulse fuller, surface warmer; a little fluid trickled from the right ear. Weak milk punch and beef-tea were ordered. In the afternoon he opened his eyes, looked round intelligently, but did not speak, and in a few minutes became again unconscious; at 7.30 P.M. pulse, 72; respirations 30; temperature, 97°. He died at midnight. Post mortem rigidity came on in five hours. At the autopsy slight bloody infiltration of the muscles, below the scalp wound, was found. A very slight fissure was found inside calvarium corresponding to the external wound. Between the bone and the dura mater was a firm, black, circular clot, one-fourth of an inch in thickness, and two inches in diameter; opposite the centre of the clot was a minute opening in the dura mater. The brain beneath the clot was disorganized for about two inches in diameter, and extending into the ventricle. Nothing else abnormal was anywhere discovered.

POISONING BY MURIATIC ACID.

Maria G., aged 21, took December 5, 9 A.M., about a quarter of an ordinary tumblerful of commercial muriatic acid. The draught was followed by immediate burning pains in the throat, and was partially vomited after a few moments. Shortly afterwards she drank very freely of milk, which was immediately rejected, and in about fifteen

minutes magnesia was very freely exhibited. About midday she was taken to the hospital. At 6 P.M. the pulse was calm, rather full, the temperature normal. There was a constant burning pain of lips, mouth and throat, with inability to swallow, and constant nausea and vomiting. The next day the lips, mouth, and tongue were found to be nearly deprived of their epithelium, red, and inflamed, with a coating on the dorsum of the tongue looking like coagulated albumen. The teeth were very white. The fauces and throat were œdematous, with diffuse tumefaction and redness, and upon the velum, the pharynx, etc., was an exudation exactly resembling the false membrane of diphtheria. There was also profuse salivation, difficult deglutition, and persisting vomiting, with severe epigastric pain and tenderness, but the abdomen generally was soft and indolent, and there had been a normal stool free from blood. There was no fever, and an analysis of the urine did not result in the detection of anything abnormal. The respiration was peculiar, with a difficult noisy inspiration, and an easy expiration. The voice was perfect, showing that the acid had not penetrated to the vocal chords, but had only affected the superior part of the larynx, to whose swelling the disturbance of respiration was due. The treatment consisted in the exhibition of alkalies and milk. There was gradual amelioration, and on the fifth day the inflammation of the mouth was very much lessened. By the tenth day all respiratory trouble had gradually died out. Her gastric symptoms had very much subsided, but not entirely disappeared. The report of the case was made on the tenth day, matters having progressed sufficiently to insure final recovery.—*Bulletin Général de Therapeutique*, October 30, 1871.

Death from Syrup of Poppies.—In the London *Pharmaceutical Journal* of October 3d are detailed two cases in which death was caused by syrup of poppies. In one case a teaspoonful was given to a child eighteen weeks old, at 6 P.M., death occurring about 8 A.M. the next day. The other victim was a child five weeks old, to whom three parts of a teaspoonful were given.

Cotton-Wool as a Means of Filtering the Air.—Mr. Brown has found that if air be drawn through cotton-wool the latter will retain all the ammonia. He found that at a temperature of 15.9° C., and a pressure of 755.7° mm., the cotton-wool will retain 115 times its own weight of ammonia.—*Zeitschrift des Allgem. Oester. Apoth.-Vereins*, November, 1871.

PRESCRIPTIONS AND FORMULAS.

Formula for Otitis.

Take of Tobacco..... ʒ j. (cut fine).
Glycerine.... ℥ j. M.

S.—five drops in the ear once a day.

Dr. Brownrigg of Mississippi commends most highly the above formula as a remedy in acute otitis.—*Medical and Surgical Reporter, Dec.* 9, 1871.

Chinoidine.

Dr. I. T. Davis, Jr., recommends this substance as a substitute for quinine in malaria, chiefly on account of its cheapness (price 15 cts. an ounce), to be used in pill form and as an elixir. The pills are made directly from the mass, 2 grs. each.

"Of these, I direct 12 to be taken on the well-day—one every hour, two every two hours, or three every two hours, according to circumstances; twenty-four grains being sufficient to break up the paroxysm in the adult. I then direct the patient to take a pill three times a day for a week, and in protracted cases for two or three weeks."

The elixir is made as follows:

℞ Chinoidine,
Acetic acid.....aa, ℥ j.
Aquæ..... ℥ ix.

Digest in a half-gallon bottle for twenty-four hours, with frequent agitation until all the chinoidine is dissolved. Add elixir-taraxacum, ℥ x., filter, and add syrup orange peel, ℥ x., when it is ready for use.

A teaspoonful contains two grains, and may be used for a pill and in the same manner.—*Medical and Surgical Reporter, Dec.* 9, 1871.

Diaphoretic.

Dr. S. C. Osborne commends very highly the following formula, stating that in intermittent fever it is of great use, not only in shortening the paroxysm but also in lessening the dose of quinine necessary to prevent relapse. The first dose usually nauseates for the hour, but after this nausea is absent, and the third dose rarely fails to induce profuse diaphoresis. Take of

Chloroformi
Sq. etheris nitrosi
Tinct. opii camphor
Vini antimonii } āā fl ℥ ss.
Aquæ.....fl ℥ vi.

Mix.

S. For adults teaspoonful every hour until the fever abates.—*American Practitioner*, vol. iv., p. 187.

Dupuytren's Pills for Syphilis.

Take of Extract of guaiac 0.80 grms. (12.26 gr.)
Extract of opium 0.40 grms. (6.13 gr.).
Corrosive sublimate 0.20 grms. (3.07 gr.).

Make into 20 pills, each of which will contain 0.02 gramm. extract of opium and 0.01 of corrosive sublimate. These pills are very renowned in France.—*Ibid.*

Dr. Debout's Pills for Migraine.

These pills are exceedingly commended as having power to cure in many cases this obstinate affection.

Take of Quinia sulph. 3 grms. (46 gr.).
Digitalis (powdered), 1 grm. 50 (23 gr.).
Syrup q. s.

Mix, and divide into thirty pills. One to be taken every night at bed-time.—*L'Union Pharmaceutique*, Sept., 1871.

Paste of Canquoin, Modified.

(DEMARQUAY.)

Chloride of zinc.....10 parts.
Glycerine..... 4 "
Starch.....20 "

Mix. This paste is more convenient in application than the original.—*L'Union Médicale.*

Ioduretted Gargle for Syphilitic Ulceration of the Mouth.

Take of Iodide of potassium. 0.60 parts.
Tincture of iodine... 2.00 "
Distilled water.....140.00 "

M.—Dr. Gauthier, *Giornale italiano delle malatie veneree e delle malatie della pelle*, Nov., 1870.

Antihemorrhoidal Suppository.

Extract of rhatany. 50 centigr. (7.67 gr.).
Chlorohydrate of morphia.. 2 centigr. (.31 gr.).
Stearine (better, cocoa butter.—ED. N. R.), 1 gramme.

Make into a suppository.—*Revue de Thérap. Medico-Chirurg.*, Aug., 1871.

Glycerine to Mask Castor-Oil.

According to a correspondent of the Boston *Medical and Surgical Journal*, the following formula affords a method of completely disguising castor-oil:—

Glycerine,
Ol. ricini, āā..... f℥ ij.
Ol. cinnam..... ♏ iv.

The essential oil should be rubbed up with the glycerine, the castor-oil added, and the mixture well shaken before using. [This seems to be the best method of disguising castor-oil yet devised.—ED. N.R.]

Lavender Brandy.

Take of Oil of lavender..... 2 ounces.
Oil of neroli..... 10 drops.
Essence of lavender. 1 pound.
Syrup of gum arabic 1 gallon.
Pure spirits..... 4 barrels.

Dissolve the oils first in a sufficient quantity of alchol, say about one gallon; add then the essence, mix the whole with the spirits, and add, finally, the syrup. A different proceeding will make the liquid turbid, so that it has to be filtered. —*Druggists' Circular.*

Dyspepsia Lozenges.

Take of subnitrate of bismuth, 9 grammes= ʒ ij. grs. 18.
Carbonate of magnesia, 14 grammes= ʒ iijss.
Precipitated carbonate of lime, 20 grammes= ʒ v.
Pulverized sugar, 100 grammes= ℥ i. ʒ iss.
Pulverized gum arabic, 4 grammes= ʒ i.
Mucilage of quince, q. s.

Make into 100 tablets.

S.—Two or three after meals in acid dyspepsia.—*Revue de Thérap. Medico-Chirurg.*, Sept., 1871.

Antineuralgic Powders.

LANGLEBERT.

Take of powdered cubebs, 68 grammes = ℥ ij. ʒ iss.
Carbonate of soda, 4 grammes= ʒ i.

Mix, and divide into 36 powders. Six to twelve daily for the neuralgic urethral pains which persist after the drying of a blennorrhagic discharge. In addition, use three injections of one or two minutes' duration of the following solution:—

Take distilled water.....100 parts.
Atropia sulph.....10 to 20 "

Mix.

—*Revue de Thérap. Medico-Chirurg.*

Antidysmenorrhœa Pills.

Take of Extract of belladonna, 45 centigrammes=6.8 grs.

Camphor (powdered), 4 grammes=61.3 grs.
Sulphate of quinia, 2 grammes=30.7 grs.
Mix and make into 30 pills.

S. One every hour, or two hours, until relief is afforded; these pills are useful when the dysmenorrhœa is not organic in its nature.—*Revue de Thérap. Medico-Chir.*, Sept., 1871.

A Remedy for Freckles.

Take of Sulpho-carbolate of zinc. 2 parts.
Glycerine.....25 "
Rose-water.....25 "
Spirits.....5 "
Dissolve and mix.

The freckled skin is to be anointed with this twice daily, the ointment being allowed to stay on for one-half to one hour, and then washed off with cold water. Anæmic persons should also take a mild ferruginous tonic. In the sunlight a dark veil should be worn.—*Zeitschrift des Allegem. Oester. Apothek. Vereines*, October 1, 1871.

Drops for Gastralgia (Dr. Gallard's Formula).

Take of Distilled water of cherry laurel.... 5.00 parts.
Muriate of morphia 0.10 "
Mix and dissolve.

One drop on a lump of sugar immediately before meals.—*Union Médicale.*

Antigastralgic Pills.

Take of extract of belladonna, 30 centigs. =4.6 grs.
Sulphate of quinine, 2 grammes=30.7 grs.
Extract of valerian, q. s.
Mix and make into 15 pills.
S. Three a day.
—*Revue de Thérap. Med.*

Glycerole of Tar.

Take of Tar.....150 parts.
Yellow of egg...150 "
Glycerine.....300 "
Mix. This preparation is of the consistency of a pomade. It does not adhere to the skin. It may be diluted with water.—*Union Médicale.*

Carminative Powder for Infants.

Take of Fennel seed..... 25.0 grains.
Aniseed..... 50.0 "
Powdered sugar....350.0 "
Powdered opium... 1.0 "
Make into a powder, ten grains of which will contain .02 grains of opium. —*Zeitschrift des Osterreich. Apothek. Vereines*, Sept., 1871.

Elixir of Chloroform (Useful in Colic).

Take of Chloroform..... } āā f ℥ iss.
Tinct. opii..... }
Tinct. camphoris... }
Spir. ammon. arom.. }
Oil cinnamon.... .gtt xx.
Brandy.....f ℥ ij.
Mix. Sig. Half a fluid drachm, more or less.—*American Eclectic Medical Journal.*

Astringent Aromatic Powder.

Take of Catechu.....8 parts.
Kino.....4 "
Extract of rhatany..4 "
Canella.....2 "
Nutmeg.....2 "
Mix and powder. To be given in doses of 1 to 3 (15 to 46 gr.) grammes for chronic diarrhœa.—*Union Médicale.*

Disinfectant Glycerole for Suppurating Wounds.

Take of Glycerine.....80 parts.
Sulphite of soda..10 "
Powdered starch.. 8 "
Mix and heat in a water-bath until it acquires the right consistency.—*Union Médicale.*

Pills of Iodoform.

Take of iodoform 10 grammes (153.4 grs.).
Extr. gentian q. s.
Make into 100 pills, each containing 10

ctgrm. (1.53 gr.) of iodoform. Take 1 to 4 daily.—*Ibid.*

Wutzer's Pills for Spermatorrhœa.

Take of Phosphoric acid....4 parts.
Camphor.....1.2 "
Powdered red cinchona bark.....4 "
Extr. cascarilla.....q. s.

Take daily 5 pills of 0.1 gramme (1.534 grains) weight of this mixture.—*Zeits. des Oester. Apothek. Vereines.*

Berndt's Pills for Diabetes.

Take of Acetate of morphia 0.15 grms. (2.25 grs.).
Ammoniated copper 0.30 grammes (4.5 grs.).
Extract of quassia,
Extract of beef's gall, ãã 4.00 grammes (61.36 grs.).

Make into pills of 0.1 gramme weight and give morning and evening five.—*Ibid.*, Aug. 20, 1871.

Anæsthetic Calcareous Glycerole.

(Dr. Bruyne.)

Take of freshly precipitated hydrate of lime..... 3 parts.
Glycerine.....150 "

Heat slightly and mix.

Then add bichloride of ethyl.3 "

The liquid thus obtained is transparent, uniform, clear. It may be applied by means of a compress, which is to be covered by some impervious material. It is especially useful in burns and their ulcers, in foul gangrenous or indolent ulcers, the formula being modified to suit the various cases by diminution of the lime or anæsthetic as the indications may require. It is also especially useful in scaly and dry cutaneous eruptions, especially where there is much itching.—*Journal de Bruxelles.*

Glycerole of Thymic Acid.

Take of Thymic acid..... 1 part.
Glycerole of starch.100 parts.

A very elegant disinfectant solution for application to foul ulcers.

Lotion of Thymic Acid.

Take of Thymic acid..... 1 part.
Alcohol, at 85°... 4 parts.
Dissolve, and add distilled water.....995 "

Use for injections, washes, etc.

Pomade of Thymic Acid.

Take of Thymic acid.....1 to 4 parts.
Lard.....100 parts.

Mix, and use as an ointment.

These preparations of thymol are to be used instead of similar preparations of carbolic acid. They are exceedingly elegant, thymol having a very agreeable odor, but costly. All these formulas are taken from *Jeannel's Formulaire Offic. et Mag.*

Collodium-Paper — Counter-Irritating Collodium.

A very viscid and perfect collodium-paper may be prepared by the following formula:—

Take of Sulphuric acid (1.82) 200 parts.
Nitric " (1.37) 100 "
White filtering-paper, previously purified by hydrochloric acid..... 10 "

Mix in a glass vessel, and allow to stand about three hours till the reaction is complete. Then wash well. The paper thus obtained is freely soluble in a mixture of alcohol and ether, or if a little residue is left after solution it remains at the bottom; a very useful collodion for counter-irritation may be prepared according to the following formula:—

No. 1. A very energetic preparation:—
Alcohol..... 3.50 parts.
Ether..... 11.50 "
Paper powder..... 1.00 part.

Mix, and add 10 parts of resin of thapsia, dissolved in 16 parts of alcohol.

No. 2. A weaker preparation—one more generally useful:—

Take of Alcohol.....	12.00	parts.
Ether.....	45	"
Paper powder...	5	"

Dissolve, and add:—

Resin of thapsia, 30 parts, dissolved in 63 parts of Alcohol.—*L'Union Pharmaceutique*, October, 1871.

Antacid Mixture (Piorry).

Take of Bicarbonate of soda, 6 grammes (ʒ iss).
Distilled water, 30 grammes (ʒ vii.).
Syrup of orange flowers, 30 grammes (ʒ vii.).
Essential oil of anise, 1 gtt.

To be taken at one time.—*L'Union Médicale.*

Antidysenteric Injection.

Iodine, 60 centigs.=9.1 gr.
Iodide of potassium, 1 gramme=15.34 gr.
Distilled water, 60 grammes=920 gr.

Dissolve, and use as an injection against dysentery. It is sometimes necessary to give it twice in the twenty-four hours, and to continue for two or three days. For children it should be used less strong. A marked effect of the injection is to lessen the tenesmus at once.—*L'Union Médicale*, Oct., 1871.

Eulenberg's Formula for the Vomiting of Pregnancy.

Tincture of iodine.....	1	part.
Rectified alcohol.....12		"

Mix. Three drops to be given many times a day.—*L'Union Médicale.*

Ointment of Balsam of Peru.

Take of Red oxide of mercury, 10 centigr. =1.534 gr.
Lard, 4 grammes. ʒ i.
Balsam of Peru, 8 to 12 drops.

This ointment is most strenuously commended by Dr. Warlomont in the treatment of atonic corneal ulcers, especially when they are large and deep. Also in perforating ulcer, with hernia of iris, occurring in purulent ophthalmia and in scrofulous children.—*Annales d'Oculistique.*

Soda Mint.

By an unfortunate typographical error in the last number of the journal, in the formula for this popular remedy ℥ was printed for ʒ. The formula should read:—

Take of Sodæ bicarb., f ʒ j.
Spts. ammon. arom., f ʒ j.
Aquæ menth. virid., f ℥ ij.

Mix and filter.

Dose, one to two tablespoonfuls for an adult; one-half to two teaspoonfuls for an infant.

Carminative Mixture.

Take of Oil of camphor,
Oil of cajeput, āā f ʒ ij.
Oil of cinnamon (or cloves), f ʒ j.

Mix. Ten to fifteen drops on sugar for an adult.—Ed. N. R.

To Disguise Castor-Oil.

Rub up two drops oil of cinnamon with an ounce of glycerine and add an ounce of castor oil. Children will take it as a luxury and ask for more.—*Druggists' Circular.*

Vaginismus.

M. Guéneau de Mussy, in the *Gazette des Hôpitaux*, June, 1871, commends the treatment of this obstinate affection by the following formula:—

Take of Butter of cacao,	20	grammes (306.8 grs.).
Bromide of potassium,	3	" (46.0 grs.).
Extract of belladonna,	1	" (15.34 gr.).

Make into ten vaginal suppositories. One to be used each night for a week.

Some drops of the following formula are also to be given hypodermically:—

Take of Muriate of morphia, 50 centigr. (7.57 grs.).
Sulphate of atropine, 1 " (.1534 gr.).
Distilled water, 10 grammes (153.4 grs.).

Mix and make a solution.

If pruritus exist with the vaginismus, the suppositories must be used for a longer time, and arseniate of soda be exhibited.

Burgoyne's Cholera Pills.

Take of Tannate of quinia, 1 gramme (15.34 gr.).
Powdered opium, 5 centigrs. (7.65).
Essence of aniseed, 2 drops.
Simple syrup, q. s.

Make into 10 pills, which may be taken in the course of one or two hours.

Treatment of Malarious Dysentery.

Dr. Davis directs twenty grains of powdered ipecac to be given at once, and followed by a teaspoonful of the following solution every three hours in sweetened water:—

℞ Strychnia, 1 gr.
Nitric acid, ʒ j.
Tinct. opii, ℥ j.
Simple syrup, ℥ j.
Water, ℥ ij. M.

The ipecac is mostly followed by free vomiting, after which the strychnia mixture is generally retained. Rapid improvement follows and the mixture can be taken less frequently.—*Chicago Medical Examiner*, August, 1871.

Drastic Pills for Dropsy.

Take of Elaterium (1.5 grains) 10 centigr.
Extr. of hyoscyamus (9 grains) 60 centigr.
Extract of gentian (9 grains) 60 centigr.

Mix and make into 10 pills.

One or two to be taken in dropsy, when it is desired to rapidly run off water by the bowels, and if necessary the dose may be increased to three.—*L'Union Médicale.*

Formula for Chilblains.

In the *Revue de Thérapeutique Medico-Chirurg.* of November, 1871, the following recipes are highly praised for the treatment of this troublesome affection (Testelius' Formula):—

Tincture of iodine, 1 part.
Labaraque solution, 2 parts. Mix.

The affected part to be well anointed with this and dried by the fire. This formula is only to be applied where the skin is not broken.

For cracks and chaps the best preparation is made by heating honey in the oven. When honey is so heated a sort of scum rises to the top; this is to be removed until no more is formed. The liquid left behind is oily, not sticky. It is to be applied to the hand or affected part after washing, and is said to be very efficacious. During the latter part of the siege of Paris honey could no longer be obtained, and the following formula of M. Cazenave was much applauded as a substitute:—

Take of Tincture of aloes, 2 to 4 parts.
Glycerine, 30 parts. Mix.

On retiring to bed a piece of cloth wet with this is to be applied over the chapped places, and the hands then gloved.

The following is taken from the Georgia *Medical Companion*, October, 1870:

A perfectly safe and effectual remedy for chilblains is, Mr. Skey says, obtainable in the employment of laudanum, taken internally in very small doses, of from two drops for young children, night and morning, up to six or eight for adults. It is in such quantities perfectly

harmless, and, as a rule, will effect a cure in the course of four or five days.

Dr. George P. Rugg, in a letter to the *Lancet*, commends "chloralum" for unbroken chilblains. It should be applied undiluted, night and morning, using a moderate amount of friction.

The following recipes appeared in the *Pharmaceutical Journal*:—

℞ Glycerine, ℥ iij.
Tinct. of arnica, ℥ j.
Spirit of camphor, ℥ ss.
Rose-water, ʒ j.

To be well rubbed in, night and morning.

Dr. Dewar's Lotion:—

℞ Sulphurous acid, Glycerine, āā, ℥ j.
Distilled water, ʒ ij.

℞ Lin. belladonna, ʒ ij.
Lin. aconiti, ʒ ij.
Acid. carbolic, ♏ x.
Collodion flexile, ad ℥ j.—M.

Apply with a camel-hair brush.

The above is for unbroken chilblains; if they are broken, the lin. aconite is to be omitted.

Fever Mixture.

The value of aconite in allaying fevers is apparently not so completely recognized by the profession as it ought to be, and having found the following recipes very useful in allaying fever, and in controlling it, when not dependent upon a deep-seated cause, I offer them here.—[Ed. N. R.]

Take of Tincture of aconite root, gtt. xxiv.
Sweet spirits of nitre, f ℥ ij.
Solution (or mixture) of citrate of potash, f ℥ iv.

Mix. S. Tablespoonful every one, two, or three hours.

This formula, containing two drops of the tincture of aconite root to the dose, should be given cautiously, and every hour only in urgent cases which can be very carefully watched. Many women will scarcely bear it given every two hours. The following formula is more generally applicable and safer:—

Take of Tincture of aconite root, gtt. xii.
Sweet spirit of nitre, f ℥ ij.
Solution (or mixture) of citrate of potash, f ℥ iij.

Mix. S. Tablespoonful every one or two hours.

Where there is much restlessness with the fever the following formula is very useful:—

Take of Tincture of aconite root, gtt. xii.
Sweet spirit of nitre,
Comp. spirit of nitre, āā f ℥ iss.
Camphor water, f ℥ iij.
Morphiæ sulph., gr. ss.

Mix. S. Tablespoonful every one or two hours.

Van den Court's Pills for Chordee.

Take of Extract of belladonna, gr. ij.
Lupuline, grs. xij.
Camphor, gr. xij.

Mix and make into eight pills.

S. Take from two to four at night.—*London Lancet.*

Formula for Vesical Catarrh.

Fluid extract buchu,
" " uva ursi, āā ℥ ss.
" " gelsemium, ʒ j. M.

S. 50 drops five times daily.—Dr. T. C. Miller, *Journal of Materia Medica.*

Iodide of Iron and Cod-Liver Oil.

Dr. I. Cummiskey commends the following formula as affording a stable compound, of a beautiful dark-red color:—

Take of Iodide of Iron, gr. lxiv.
Ether sulphuric, q. s.
Cod-liver oil (clarified), Oj.

Dissolve in a mortar the iodide of iron in a slight excess of ether, and add the oil gradually, stirring with the pestle rapidly until the mixture is complete. Keep in a tightly-corked bottle.

The proportion here given is half a grain of the iodide to one drachm of the oil; the dose is from f ʒ i. to f ℥ ss.—*Philadelphia Medical Times*, Nov. 15, 1871.

Gastralgic Pills.

Take of Extract of belladonna, 0.30 grm.
Sulphate of quinia, 2.00 grm.
Extract of valerian, q. s.
Mix and divide into fifteen pills.
S. One to be taken three times a day.
—*Zeitschrift des Allgemein. Oester. Apotheker-Vereines*, October 20, 1871.

Cure for Corns.

Bathe the feet well in warm water, then with a sharp instrument pare off as much of the corn as can be done without pain or causing it to bleed, and dress once a day with the following salve:—

℞ Black oxide of copper, gr. xv.
Lard, ʒ ss. M.
—*Chemist and Druggist*, Nov. 15.

Salve for Chapped Lips and Hands.

Take of White wax, two ounces.
Spermaceti, one ounce.
Oil of almonds, four ounces.
Honey, two ounces.
Essence of bergamot, quarter of an ounce, or any other scent.

Melt the wax and spermaceti; then add the honey, and melt all together, and when hot add the almond oil by degrees, stirring it till cold.

Carlo Parvesi's Styptic.

Take of Collodion, 100 parts.
Carbolic acid, 10 parts.
Tannin (Pelouse's), 5 parts.
Benzoic acid (from gum), 5 parts.

Mix the ingredients in the order above written, and agitate until perfect solution is effected. This preparation has a brown color, and leaves on evaporation a strongly adherent pellicle. It instantly coagulates blood, forming a consistent clot, and a wound rapidly cicatrizes under its protection.—*Carlo Parvesi.* (*American Journal of Dental Science.*)

Depilatory Powder.

Take of quicklime, gram. xxx.
Yellow sulphate of arsenic, gram. ii.
Starch in powder, gram. xxiv.

Mix. To use this powder, it is only necessary to dissolve it in a small quantity of water, and apply it to the spot from which we desire to remove the hair. From one to two minutes are sufficient to produce this result.—*Repertoire Pharmaceutique.*—*Georgia Med. Companion.*

Powder

For excessive perspiration of the hands and feet:—

Carbolic acid, 1 part.
Burnt alum, 4 parts.
Starch, 200 parts.
French chalk, 50 parts.
Oil of lemon, 2 parts.

Make a fine powder, to be applied to the hands and feet, or be sprinkled inside of gloves or stockings.—*Pharmaceutische Centralhalle.*—*Georgia Med. Companion.*

Glycerine Cream.

Receipt for chapped lips:—
Take of Spermaceti, four drachms.
White wax, one drachm.
Oil of almonds, two troy ounces.
Glycerine, one troy ounce.

Melt the spermaceti, wax, and oil together, and when cooling stir in the glycerine and perfume.—*Georgia Med. Companion.*

Styptic Cotton.

Dr. Jas. Cummiskey commends (*Phila. Med. Times*, Jan. 1, 1872) the following modification of Dr. Ehrle's formula:—

Take cotton of the best quality; boil in a weak solution of soda (four per cent.) for about an hour; wash with cold water; press out and dry. Then steep the cotton in Liquor ferri sulphatis (diluted one-third); press and air-dry; after which pick to pieces.

Wine of Myrrh.

Dr. Delioux de Savignac, in a paper of some length on myrrh (*Bulletin Général de Thérap.*, Dec., 1871), commends the following formula:—

Take of Myrrh (choice pieces) 20 grammes (306 grs.).
Bitter orange peel, 15 grammes (245 grs.).
Malaga wine, 1 litre (1.75 pints).

Allow to macerate ten days, and filter.

Two tablespoonfuls are to be taken before or after eating, at the moment when the pain is expected to occur.

Catechu and Opium as an Astringent in Gleet.

Dr. R. Locke Johnson extols, for the cure of gleet, an astringent injection composed of:—

℞ Tinct. opii..... ʒ j.
Tinct. catechu..... ʒ ss.
Mist. acaciæ..... ℥ ij.

M.—To be used twice daily.

He relates one case in which the discharge ceased after the second application, and did not return.—*Medical Press and Circular*, Aug. 23, 1871.

Antiherpetic Solution.

(PURDON.)

Take of Chromic acid, 4 grammes (61.3 gr.).
Distilled water, 30 grammes (460 grs.).

Dissolve.

This solution is to be used as a local application in tinea tonsurans, tinea circinnata, sycosis, and other parasitic affections.—*L'Union Médicale.*

Tonic Febrifuge Wine.

(OROSI.)

Take of Yellow cinchona bark. 6 parts.
Gentian root, Bitter orange peel, Chamomile flowers.. each 4 parts.
Spanish wine..... 250 parts.

Macerate eight days and filter.

Dose: From 60 to 100 grammes per day when the fever is broken.—*L'Union Médicale.*

Formula for Cystitis.

The following is used by Prof. Gross to relieve the irritation of the bladder produced by the presence of a stone:—

℞ Uvæ Ursi..... ℥ j.;
Sodæ Bicarb..... ʒ iij. M.

S. Add to one and a half pints of boiling water, and take a wineglassful two or three times daily.—*Phila. Med. Times.*

Strumous Otitis.

Prof. Gross practises the following treatment:—

After the ear is well washed out with tepid water, the following solution will be applied with a camel's-hair brush, once daily, until the discharge is materially lessened; and after that every third or fourth day, as the case may require:

℞ Argent. Nit.....gr. x.;
Aquæ.....f ℥ j. M.

A blister will also be applied behind the ear, to be renewed every eight or ten days.

This patient will also take in pill form, three times daily,—

℞ Ext. cinchonæ.....gr. ij.;
Ferri iodid.....gr. ½;
Hydrarg. chlor. corros..gr. $\frac{1}{10}$. M.

The diet will be unstimulating, yet at the same time nutritious and easy of digestion. All red meats and coffee should be forbidden; but oysters, eggs, poultry, milk, tea, stale bread, and fresh fruits may be liberally partaken of. The patient will also take ample exercise in the open air, guarding from cold by wearing flannel next to the skin.—*Phila. Med. Times.*

Rochard's Ointment.

This preparation is used by Dr. Dubois (Lecturer on Diseases of the Skin, Uni-

versity of Pennsylvania,) as a mild caustic to remove non-syphilitic condylomata or warts:—

℞ Iodini pulv.....gr. vij.;
Hydrarg. chlor. mit.....ʒi.;
Adipis.....ʒij.
Misce. Fiat unguentum.

Unguentum Diachylii.

(HEBRA'S.)

℞ Olei olivarum opt., ℥xv.;
Lithargyri, ℥iij–ʒvj;
Coque; dein. addi
Olei Lavandulæ, ʒij.
Misce. Fiat unguent.

—*Phila. Med. Times.*

Formula for Tapeworm.

Dr. S. Q. Knight says (*Phila. Med. Times*, Jan. 1, 1872):—My friend Dr. Edwin Morris, of Spalding, England, has used areca-nut with success. I have found kameela successful in cases occurring in my own practice in which other remedies have failed.

Mrs. A., aged fifty-six, suffered from tape-worm, and had been treated at different times by means of purgatives, with liquid diet, emulsion of pumpkin-seed, oil of turpentine, and oil of male-fern, but without the desired effect, although small portions of the worm were passed. When I saw the patient for the fourth time, I ordered the following:—

℞ Kameelæ.....℥ss.;
Syrupi simplicis.....f℥j. M.
S.—Take a tablespoonful at a dose.

Next morning, having taken one dose, the patient passed a tapeworm fifteen feet in length. The remaining dose produced no effect. The patient recovered her health, and has remained well for two years.

Two other cases, having the same symptoms, were treated by me with kameela, and both terminated successfully.

GENERAL RECEIPTS.

New Quantitative Test for Sugar in Urine.

Knapp's Solution.

M. C. KNAPP proposes, in the following formula, to take advantage of the power of glucose to completely reduce an alkaline solution of mercury:—

Take of Pure dry cyanide of mercury, x. grammes.
Water, q. s.
Solution of caustic soda (sp. gr. 1.145), 100 cubic cent.

Dissolve the cyanide in such quantity of water, that when the solution is added it will make one litre.

In testing, take 100 cubic centimetres of this solution and add sufficient of the urine to completely reduce the mercury. The amount of glucose contained in such quantity will be 100 milligrammes. In order to know when the mercury is completely reduced, as the urine is carefully added, a drop of the fluid should from time to time be put on white paper, and a little weak solution of sulphuret of ammonia be added; if the mercury has not been fully reduced the drop will be turned brown.

This test is said to be better than that of Fehling, because the fluid is absolutely permanent and more easily prepared, and the application is quicker and easier. —*Bulletin Général de Thérap.*, Oct. 30, 1871.

A very Hard Cement.

Some workmen having used Portland cement, mixed with finely divided cast or wrought iron filings, in the gardens of Rev. F. Moigno, the latter has noticed that the cement has become so intensely hard that it cannot be broken with a hammer or pick.—*Les Mondes*, Aug. 24, '71.

New Pharaoh's Serpents.

A mixture, which in burning gives the same appearance as the sulphocyanide of mercury, without being accompanied by similar noxious fumes, can be made by an intimate mixture of two parts acid chromate of potash, one part nitrate of potash, and three parts of white loaf sugar. After mixing, this should be moulded into pastilles of suitable shape and size, and kept away from light in a dry place. If they are to be kept for some time, they should be covered with a thin coat of gum-sandarach. A small amount of Peru balsam gives them a delightful odor when burning. The resulting ash, in the form of a serpent, is said to be an excellent polishing powder.—*American Chemist.*

Arsenical Soap for the Preservation of Bird and other Skins.

Take of Arsenious acid	32 parts.
Dried carbonate of potash	12 "
Water	32 "
White Castile soap	32 "
Pulverized quicklime	4 "
Powdered camphor	1 "

Dissolve the arsenic and potash in the water boiling, and add the soap; allow to cool, and rub the camphor and lime in, in a mortar.—*French Codex.*

Brunetti's Method of Preserving Cadaver or Anatomical parts.

1. Injection of pure water, to wash out the vessels.

2. Injection of Alcohol at 80°, to drive out the water.

3. Injection of ether, to dissolve the fat.

4. Injection of a 10 to 15 per cent. solution of tannin.

5. Desiccation by injection of hot air. —*Dr. Jeannel's Formulaire Officinal et Magistral.*

To Make Soup Tablets.

The *Chemical News* gives us, from the German Manuals of Pharmacy, the following receipt, by Reinsch, for making the soup tablets so much in use in the German army during the late war. The formula is as follows:—

Take eleven parts by weight of good suet, melt it in an iron pan, and make it very hot, so as to begin to brown; add, while keeping the fat stirred, eighteen parts of rye meal, and continue heating and stirring so as to make the mass brown; add then four parts of dried salt, and two parts of coarsely pulverized caraway-seed. The mixture is then poured into tin pans, somewhat like those used for making chocolate into cakes. The cakes have the appearance of chocolate, and are chiefly intended for the use of soldiers while in the field. A quantity of about one ounce of this preparation is sufficient to yield, when boiled with some water, a ration of good soup, and in case of need the cakes, being agreeable to the taste, may be eaten raw.

Solvents for Indigo.

The extensive employment of indigo makes a new solvent of importance. In the first place, Venetian turpentine, heated to the point of ebullition, dissolves indigo with the same blue color as does sulphuric acid or aniline. After cooling, magnificent copper-red crystals separate. The crystals can easily be freed from the solvent by ether or alcohol. Boiling paraffin is an equally good solvent. A somewhat dilute solution of indigo in paraffin can with difficulty be distinguished from alcoholic solution of fuchsine. Petroleum dissolves indigo with carmine red solution; so also spermaceti and stearic acid, the first with carmine violet, the last with blue color.—*Druggists' Circular.*

To Filter Alcohol.

The following method of filtering alcohol, or its solutions, is said to be very satisfactory, and is used extensively in North Germany, where it constitutes one of the secrets of the trade. Clean, unsized paper (Swedish filtering paper is the best) is to be torn into shreds and stirred into the liquid to be clarified. The whole is then to be strained through a flannel bag, when the resulting liquid will be found to possess the utmost clearness and limpidity. A filter may also be made by spreading paper-pulp evenly upon stretched flannel or woollen cloth. When dry, the cloth so coated will be found to give better results than the felts, etc., commonly employed as filters.—*Druggists' Circular.*

To get rid of Ants from a Dwelling.

Take a large sponge, wash it thoroughly, and dry it. Then place it near the ants' hive, and sprinkle white sugar on it. The ants will soon collect on it, and make their nests in it. When they have settled, the sponge may be thrown in hot water, and the ants killed by thousands. By a repetition of this, any place can be readily cleared of these vermin.—*Zeitschrift des Allgem. Oesterr. Apotheker-Vereines.*

Chinese Varnish.

Dr. V. Scherzer states, in the *Bayerische Industrie und Gewerbe Blatt*, May, 1871,

that the Chinese make a varnish, to which they give the name of *Schioliao*, in the following manner: Three parts of previously defibrinated fresh blood are mixed with four parts of lime and a little powdered alum. The result is the formation of a thick glutinous mass, which is ready for use at once. It is chiefly used for hardening the surface of wood, and rendering it perfectly water-tight. Dr. Scherzer states that he has seen straw bags made so tight with it as to be used for holding oil, whilst thin mill-board painted with it becomes as hard as wood. —*Chemical News*, Aug. 25, 1871.

Preventives for the Ignition of Woven Fabrics.

A. Patua recommends the following in the *Bayer. Indust. und Gewerbe Blatt:* Water, twenty parts; borax, three; and sulphate of magnesia, two and a quarter parts. These salts are only to be mixed just previous to their use. The muslins or other fabrics are thoroughly impregnated with the solution, then wrung out, hung up until nearly dry, and then ironed.—*Chemical News.*

Cologne Water.

Take of	Oil of bergamot.....	4 parts.
	Essential oil of cinnamon.....	1 "
	Essential oil of lemon.	4 "
	" " citron (Citrus Medica)....	4 "
	Essential oil of lavender.....	2 "
	Essential oil of orange-flowers.....	2 "
	Essential oil of rosemary.....	2 "
	Alcohol, at 90°.....480	"
	Spirits of rosemary... 40	"
	Compound spirits of balm (Melissa Officinalis)..... 60	"

Mix, and allow to stand for eight days. Distil until 464 parts of spirits are obtained.—*French Codex.*

Improved Mixtures for Red, Green, and Blue Bengal Lights.

J. N. Braunschweizer commends the following, in the *Bayer. Ind. Gewerbe Blatt:* For *red*, nitrate of strontia, nine parts; shellac, three parts; chlorate of potassa, one and a half part. For *green*, nitrate of baryta, nine parts; shellac, three parts; chlorate of potassa, one and a half part. For *blue*, ammoniacal sulphate of copper, eight parts; shellac, one part; chlorate of potassa (coarsely powdered), six parts. These mixtures can be used in rooms, as they do not emit, when burning, any deleterious fumes.—*Chemical News.*

Cologne (Dorvault's).

Take of	Alcohol, at 85°....1,750	parts.
	Essential oil of citron (C. Medica).. 12	"
	Essential oil of lemon..... 40	"
	Essential oil of lavender..... 6	"
	Spirits of benzoin.. 45	"

Mix. Allow to stand for twenty-four hours and filter.—*Jeannel's Formulaire.*

Bouquet de la Reine d'Angleterre (Piesse).

Take of	Extract of rose.....56	parts.
	" violets.....56	"
	" tuberose....28	"
	" orange-flowers.....14	"
	Essential oil of bergamot..... 7	"

Mix and filter.—*Jeannel's Formulaire.*

Spirits of Patchouly (Piesse).

Take of	Alcohol, at 85°.....600	parts.
	Essential oil of patchouly..... 7	"
	Essential oil of rose.. 1	part.

Mix and filter.—*Jeannel's Formulaire.*

Bouquet de Foin Coupé (Piesse).

Take of	Extr. of Tonka bean.	113 parts.
	Extract of geranium.	56 "
	Extract of orange-flowers	56 "
	Extract of rose	56 "
	" jasmine	56 "
	Spirits of rose	56 "

Mix and filter.—*Jeannel's Formulaire.*

Artificial Essence of Heliotrope (Marquez).

Take of	Vanilla (cut in pieces)	12 parts.
	Alcohol, at 85°	1,000 "
	Water of orange-flower	125 "

Macerate for eight days, then filter.—*Jeannel's Formulaire.*

Sachets of Cassia.

Take of Flowers of Acacia farnesiana,
Powdered orris roots, equal parts.

Mix.—*Jeannel's Formulaire.*

Sachet of Lavender (Piesse).

Take of	Powdered lavender	75 parts.
	" benzoin	20 "
	Essential oil of lavender	1 part.

Mix.—*Ibid.*

Sachet of Heliotrope (Piesse).

Take of	Powdered orris root.	2,000 parts.
	" rosa centifolia	1,000 "
	" tonka bean.	500 "
	Cut vanilla bean	250 "
	Powdered musk	10 "
	Essential oil of bitter almonds	1 part.

Pound the musk and vanilla bean together, and add the rest. Pass through a not close sieve. An excellent imitation of heliotrope.—*Ibid.*

Sachet à la Maréchale (Piesse).

Take of	Sandal-wood	280 parts
	Orris root	280 "
	Rosa centifolia	140 "
	Cloves	140 "
	Cassia bark (Laurus cassia)	140 "
	Musk	1 part.

Powder coarsely.—*Ibid.*

Sachet for Perfuming Linen.

Take of	Orris root, Rosa centifolia, each	125 parts.
	Orris root, Nutmegs, each	8 "
	Grana moschata (Hibiscus abelmoschus)	15 "

Powder coarsely and mix.—*Ibid.*

Silver Soap.

Hard Soap	8 oz.
Turpentine	1½ oz.
Water	4 oz.

Boil until perfect solution, and add

Liq. Ammonia	3 oz.

—*Canada Pharmaceutical Journal.*

Method of Rendering Wooden Taps Impervious to Liquids, and Preventing their Cracking.

DR. E. KOPP.

The taps are placed in molten paraffine heated to from 110° to 120°; by this means the water is eliminated from the wood, and the wood becomes thoroughly impregnated with paraffine. The taps are not removed from this bath until all the aqueous vapor has been expelled, and are left, after the removal of the vessel from the fire, in the molten liquid up to the very moment the paraffine begins to solidify. Wooden taps thus prepared are very durable, do not become soaked with liquids, keep very tight, and are not liable to become mouldy. The excess of paraffine is wiped off with care, and the taps are next rubbed clean with a piece of flannel.—*Chemical News—Canada Pharm. Journal.*

Falling of the Hair.

The most satisfactory treatment is the use of Tannin, one and a half scruples; Adipis, one oz. Oleum Sabinæ, gtt. v–xxx to one oz. Adipis has this effect still more decidedly, but causes the hair to become harsh, stiff, and of a dirty color, and has an unpleasant odor. It sometimes causes severe headache.—*Druggists' Circular.*

Soft Soap.

Boil twenty-five pounds of fried grease in two pails of strong lye; add another pailful of hot lye also on the following day, if there is grease on the top of the soap. Afterwards add a pailful of hot water each day until the barrel is filled. —*Druggists' Circular.*

To Prevent Polished Materials from Rusting.

The following has been tested and approved by good authorities: Put half an ounce of solid paraffine into a wide-mouthed glass bottle, and let it melt in boiling water; then add one and a half ounce of petroleum; shake the mixture, after having corked the bottle, until it becomes a cold ointment. In using, cover the metal with it, and wipe off afterwards the greater portion, so that the polish will be little affected. A thin coat is sufficient to prevent polished metals from tarnishing.—*Boston Journ. of Chem.*

Shoe-Blacking without Acid.

From 3 to 4 lbs. of lamp-black and ½ lb. of bone-black are well mixed with 5 lbs. of glycerine and treacle. Meanwhile 2½ oz. of gutta-percha are cautiously fused in a copper or iron saucepan, and 10 oz. of olive oil added, with continual stirring, and afterwards 1 oz. of stearine. The warm mass is added to the former mixture, and then a solution of 5 oz. of gum senegal in 1½ lb. of water, and one drachm each of oil of rosemary and lavender may be added. For use, the blacking is diluted with three to four parts of water. This blacking keeps the leather soft and tends to preserve it.—*Boston Journ. of Chem.*

Bottle Wax.

The ingredients are, shellac, 2 lbs.; rosin, 4 lbs.; Venice turpentine, 2½ lbs.; red lead, 1½ lb. Melt the shellac and rosin cautiously in a bright copper pan, over a clear charcoal fire. When melted add the turpentine, and lastly, mix in the red lead. Pour into moulds, or form sticks on a warm marble plate. The gloss may be produced by polishing the sticks with a rag until they are cold.—*Boston Journ. of Chem.*

Preventives for the Ignition of Woven Fabrics.

A. Patera recommends the use of a solution consisting of water, 20 parts; borax, 3, and sulphate of magnesia, 2½ parts. These salts are only to be mixed just previous to use. The muslins and other similar fabrics are thoroughly impregnated with the solution, next wrung out, and are, after having become nearly dry, ironed. The use of a mixture of sulphate of ammonia and sulphate of lime is also recommended. And, lastly, attention is called again to the application first made by Fuchs, so far back as 1823, of a solution of silicate of potassa, or soda, for rendering wood, and especially theatrical decorations, fire-proof—that is to say, preventing such from bursting into flame if accidentally ignited.—*Ibid.*

Iron Cement.

Winkler has found that the best iron cement can be made by preparing a mixture composed of 16 parts of clean wrought-iron filings, 3 parts of pulverized sal ammoniac, and 2 parts of flowers of sulphur. This mixture can be kept in a dry package any length of time, unchanged; and when required for use, it is better to reduce one part of it with 12 parts of iron filings, and enough water, containing a little of sulphuric acid, to

form a stiff paste. When thus reduced it must be immediately applied, as it sets rapidly. The author recommends it for joining broken pieces of cast-iron, and for stopping large fractures. For very fine work, pure pulverized iron filings, such as apothecaries use, can be substituted for the coarse article.—*Sci. American.*

To Curl Hair.

Take two ounces of borax, one drachm of powdered gum senegal, one quart of hot water (not boiling); mix, and as soon as the ingredients are dissolved, add two ounces of spirits of wine strongly impregnated with camphor; on retiring to rest, wet the hair with the above mixture and roll it in papers as usual; leave them till morning, when untwist and form into ringlets.—*Druggists' Circular.*

To Get Rid of Flies.

In an interesting lecture in the *Philadelphia Medical Times*, by Dr. Addinell Hewson, on flies, the author states that hanging about a room branches of the May weed or wild chamomile, in flower, is sufficient to expel the flies, or even strewing the dried flowers about the room will suffice. An equally efficacious remedy is, imperfectly burning black pepper upon a hot shovel. He has also found that throwing a netting over the bed will keep out these pests, even if the meshes are an inch in size, provided there be not a window or light behind the bed.

To Kill Lice.

In the *Philadelphia Medical Times* of Dec. 1, Dr. Louis A. Duhring states that the best method of getting rid of these vermin is to saturate the hair with coal oil, a teacupful or thereabouts being used at bed-time, after which a flannel night-cap should be put on, and in the morning the head be thoroughly washed with soap and warm water. To get rid of the nits alkaline washes and the frequent use of the fine-tooth comb must be resorted to. [I have found that the repeated use of a strong infusion of fish-berries (cocculus indicus) will answer the purpose, and the application, though not so effectual, is certainly pleasanter than the plan pursued by Dr. Duhring.—*Ed. N. R.*]

Preservative for Anatomical Specimens.

BY DR. B. TITCOMB.

First place the object in a vessel containing pure water; let it remain a few hours, or over night, then transfer it to another containing a solution of creasote, f ʒ ij. to f ʒ xij. of water; let it remain over night, then place it in a jar or vessel containing a liquid of the following proportions:—

℞ Chloride of sodium.... ʒ iss.
Sulphate of alumina.... ʒ iss.
Nitrate of potassa..... ʒ vj.
Aqua.....f ʒ vij.

—Trans. Am. Med. Ass., *Chicago Medical Times.*

Powder for the Preservation of the Cadaver.

Take of light Wood saw-dust...50 parts.
Powdered sulph. of zinc. 20 "
Oil of lavender..... 1 part.

Arrange the corpse in a box filled to the depth of two inches with this powder, and then cover it with the same.—*French Codex.*

Sucquet's Powder for the Preservation of Corpses.

Sublimed sulphur,
Powdered boracic acid, ãã q. s.

About 90 lbs. (40 kil.) are required for an adult corpse, to be used as last formula. —*Jeannel's Formulaire.*

Vafflard's Powder.

Impure carbolic acid.. 4 parts.
Sawdust.....16 "

Mix intimately. To be used as last formula. According to the official report of

the Parisian authorities a body immersed in this powder gradually dries without putrefaction. About 90 lbs. are required for an adult corpse.—*Ibid.*

Mixture for the Preservation of Anatomical Pieces.

Take of Glycerine.....14 parts.
Brown sugar..... 2 "
Nitrate of potash..... 1 part.

Mix. After a maceration of some days' duration the pieces become rigid, but recover their suppleness on exposure to a dry, warm air, and when they are dry may be varnished. The duration of maceration depends upon the size of the piece; eight days is enough for a hand. —*Ibid.*

Solution of Chloride of Zinc for Preserving the Cadaver.

Chloride of zinc..1 part (or a little more); Distilled water...2 parts.

Dissolve. Inject into body. Good, but alters color.—*Ibid.*

Solution of Sulphate of Zinc and Alumina for Preserving the Cadaver.

Take of Sulphate of alumina (free from iron).....60 parts.
Water.....40 "
Oxide of zinc..... 6 "

Mix. Dissolve with heat. Filter, and evaporate until a specific gravity of 135 is obtained. Said to be very efficacious when used as an injection into the cadaver. —*French Codex.*

Cleaning Glass Vessels in which Petroleum has been kept.

In Dingler's *Polytechnisches Journal* the following method is given for this purpose:—Wash the vessel with thin milk of lime, which forms an emulsion with the petroleum, and removes every trace of it, and by washing a second time with milk of lime and a small quantity of chloride of lime, even the smell may be so completely removed as to render the vessel thus cleansed fit for keeping beer in. If the milk of lime be used warm, instead of cold, the operation is rendered much more effective.—*Chemist and Druggist.*

Lute for Corks, etc.

Anthracene acts capitally as a substitute for paraffine (either by itself or mixed with the latter) in covering corks or joints of apparatus required to stand a comparatively high temperature. A luting of anthracene is capable of standing a high pressure and temperature combined for a lengthened period.—ROBERT F. SMITH, *Chem. News.*

Marking Ink for Parcels.

If you dissolve asphaltum, grahamite, albertite, or any mineral of this character, in naphtha or oil of turpentine to a thin fluid, you will obtain an ink to answer all your purposes, viz., to dry quickly, not to spread, and the markings to be nearly indestructible.—*Chemist and Druggist.*

Extract of Ambergris (Piesse).

Take of Spirit of rose.....250 parts.
Spirit of ambergris...500 "
Spirit of musk $\frac{7}{1000}$...125 "
Spirit of vanilla..... 56 "

Mix and filter. A very persistent perfume.—*Ibid.*

Spirit of Vanilla (Piesse).

Take of Vanilla in small pieces..6 parts.
Alcohol at 85°.....100 "

Macerate for a month, express and filter.—*Ibid.*

Essence of Ambergris.

Ambergris.....1 part.
Musk.....1 "
Sulphuric ether and alcohol mixed..70 "

Macerate for two days and filter. A very persistent perfume.—*Jeannel's Formulaire.*

Compound Spirit of Ambergris and Musk. Guibourt's Royal Essence for the Handkerchief.

This very persistent perfume is made according to the following:—

Take of Ambergris	25	parts.
Musk	12	"
Cevet (vivera civetta)	5	"
Oil of rose	2	"
Oil of cinnamon (laurus cinnamomum)	3	"
Oil of Wood of Rhodes (convolvulus scoparius)	2	"
Oil of orange flowers (citrus aurantium)	2	"
Carbonate of potash	6	"
Alcohol at 90°	860	"

Macerate for fifteen days and filter.—*Ibid.*

Artificial Extract of Carnations (Piesse).

Take of Spirit of oil of roses	56	parts.
Spirit of orange flowers	28	"
Spirit of acacia farnesiana	28	"
Spirit of vanilla	11	"
Oil of cloves	1	"

Mix and filter.—*Ibid.*

Eau de Portugal (Piesse).

Take of Alcohol at 85°	600	parts.
Oil of orange (citrus aurantium)	32	"
Oil of citron (citrus limon)	8	"
Oil of bergamot (citrus limetta)	4	"
Oil of rose (rosa centifolia)	1	"

Mix and filter.—*Jeannel's Formulaire.*

Lavender Water (Piesse).

Take of Oil of English lavender,	23	parts.
Alcohol at 85°	680	"
Rose water	55	"

Mix and filter.—*Ibid.*

Lavender Water (Smith).

Take of Oil of lavender	6	parts.
Spirit of Amber (gris?)	3	"
Cologne	50	"
Alcohol at 85°	100	"

Mix and filter.—*Ibid.*

Compound Spirit of Musk (Piesse).

Take of Spirit of musk $\frac{1}{1000}$	4	parts.
Spirit of ambergris	2	"
Spirit of rose	1	"

Mix and filter.

The Spirit of Ambergris

Is made as follows:

Take of Alcohol at 85°	800	parts.
Ambergris	17	"

Macerate for a month, agitating from time to time, and filter.

The Spirit of Musk

Of the French Codex is made as follows:

Take of Musk-pods	1	part.
Alcohol at 80°	10	"

Macerate for ten days, express and filter.—*Ibid.*

Curry Powder.

In the *Food Journal* of December 1, 1871, Wm. Cochran endorses the following recipe as affording the closest approach to a Singapore Curry Powder that can be obtained outside of the Tropics:—

1 cocoanut and 1 lime sliced.

Cardamoms, thoroughly ground			2 ozs.
Cinnamon,	"	"	2 "
Chilies,	"	"	1 "
Coriander seed,	"	"	4 "
Black pepper,	"	"	4 "
Mustard seed	"	"	2 "
Turmeric,	"	"	5 "
Ginger,	"	"	4 "

On Cooking of Food at below 212° F. or 100° C.

M. JEANNEL, in a communication to the French Academy, arrives at the following conclusions:—

"1. The boiling of water in which

meat is cooked to make broth, or in which vegetables are prepared for the table, has no advantage other than that of showing, by the escape of steam,—a phenomenon which attracts the attention even of the most ignorant,—that the fire is sufficient to insure the cooking of the food; but, on the other hand, continued boiling during the process of cooking has two disadvantages: First, the aromatic principles carried off by the steam are dissipated in the atmosphere, and the flavor of the food is thus diminished. Secondly, a very considerable amount of fuel is wasted.

"2. Meat and vegetables, either fresh or desiccated, can be cooked at a temperature of +95°.

"3. Cooking at +95° requires a little more time than cooking at the boiling-point under the pressure of 0^{mm}.76 in the proportion of sixteen to fifteen or fourteen for beef broth, and in that of about five to four for potatoes or desiccated vegetables.

"4. As regards the consumption of fuel, there is an economy of about forty per cent. when the cooking is done in an ordinary stove.

"5. The broth and the meat are much more palatable when they have been cooked at a temperature of +95° and without more boiling than is necessary for scumming, and for this purpose the term of boiling need not exceed fifteen minutes.

"6. By cooking at +95° the yield of the cooked meat is increased by from three to six per cent.

"7. By cooking at +95° the yield of broth is increased ten per cent., so that the same quantity of broth may be obtained as when the temperature is raised to 100°, with ten per cent. less water.

"8. It would be easy for the head cook in a large establishment to regulate the heat in their saucepans by thermometers and registers. Where the cooking is done by gas this is exceedingly easy.

"9. The thermometer (which should be of the description used by sugar-refiners and brewers, and which may be obtained of any of the opticians in Paris) should be protected from injury by being encased in a fenestrated covering of metal, leaving the scale uncovered at the upper part, so that when the thermometer is hung by a hook to the edge of the saucepan, its scale can be seen through an orifice or a notch made in the lid. The damper of the stove should be shut as soon as the temperature approaches +100°: and opened whenever it tends to fall below +95°."

NOTE.—After skimming the *pot-au-feu* and adding vegetables and spices, the boiling saucepan should be placed in a box, the inside of which, as well as the cowskin lid, is lined with a layer (ten centimetres in thickness) of coarse woollen stuff. Thus shut up in a non-conductor of heat, the saucepan cools very slowly. At the end of five minutes the temperature of the water is still + 70, the bouillon is made, and the meat, vegetables, and spices are cooked without the loss of any of their aromatic principles by evaporation. Such is the Norwegian saucepan, the use of which cannot be too highly recommended.—*Philadelphia Med. Times*, Jan. 1, 1871.

Metallic Soap.

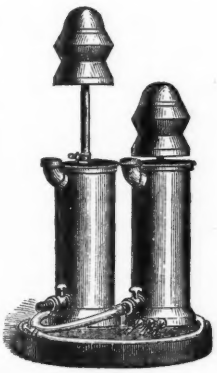
Metallic soap in linseed-oil is highly recommended for coating canvas for wagon covers, tents, etc., as being not only impermeable to moisture, but remaining pliable for a long time without breaking. It can be made with little expense, as follows: Soft soap is to be dissolved in hot water, and a solution of sulphate of iron added. The sulphuric acid combines with the potash of the soap, and the oxide of iron is precipitated with the fatty acid as insoluble iron-soap. This is washed and dried, and mixed with linseed-oil. The addition of dissolved India-rubber to the oil greatly improves the paint.—*Harper's Monthly.*

MANUFACTURES.

Babcock's Uterine Supporter is one of the most recent, and, it appears, one of the best instruments for the successful treatment of prolapsus uteri. It is made of pure silver, and is simple and easy of application and adjustment. Tiemann & Co. are agents for its sale in this city.

Diabetic Flour, or Prepared Flour of Bran, for making biscuit for Diabetes and Indigestion. This article is by careful manipulation freed from principles which render wheaten bread or other farinaceous preparations inadmissible with persons suffering from diabetes, and being finely floured, it is not irritating to the mucous membrane of the stomach and bowels. Dyspeptics will find in the biscuit prepared from it a useful adjunct to their ordinary diet, experience having shown that a small quantity of the bran promotes the action of the bowels; and any non-diabetic person who wishes a gentle aperient may find that half a bran biscuit per diem will answer as well as the family pill.

Ingram's Automatic Self-Injecting Syringe.—The engraving which accompanies this notice will convey to the reader a sufficiently accurate idea of the principles upon which this instrument operates, which is, by the addition of weights to the piston-rod of the syringe, which, upon the opening of a stop-cock, causes a steady and constant ejection of the fluid therein contained. This even flow is a desideratum long desired by the medical profession, the nearest approach to it before the introduction of this syringe being found in the French Irrigator, as it was called; but the great drawback with it was, that being operated by clock-work, it was constantly getting out of order, whereas the Ingram Syringe is simple of construction and not liable to get out of order. Another great advantage, as we conceive, in the use of this instrument is, that an enema may be taken by



the most delicate invalid with the utmost privacy and without the least exertion. The instrument being filled by a servant and placed in position, all that is then necessary for the patient is to turn the stop-cock. The syringe will contain about one quart. It is beautifully gotten up in hard white metal, having the appearance of silver, and retails, we think, at ten dollars.

Kent's Metallic Nipple-Shield, which is shown in the accompanying illustration, is one of the very best contrivances for the purpose which has been as yet introduced. The metal shield entirely protects the nipple from the pain which a nursing child sometimes inflicts, and yet is so constructed as to entirely avoid compression of the lactiferous ducts. The little valve which surrounds the projecting knob closes on the exhaustion of air, and consequently retains its position upon the nipple until detached by the mother. The shield is covered by one of the ordinary rubber teats. When used in accordance with the directions accompanying each box, it cannot fail to give perfect satisfaction. The agents for the article are T. Metcalf & Co., Boston.

"Hearth and Home," published weekly by Orange Judd & Co., No. 245 Broadway, is undoubtedly one of the best, if not the very best of the illustrated papers published in this country; its literary attractions are good, and the numerous illustrations in every number are excellent. It is a live paper, containing, in addition to its other attractions, the news of the day, financial and market reports, etc., etc. The subscription price is low at $3 per year.

Phinol Sodique.—This preparation is gaining the confidence of the profession throughout the country. Its virtues have been tested for several years, and its range of usefulness in medical practice is steadily increasing. Chemically it is a phenate of soda, and is made by neutralizing phenic acid with soda. As a hæmostatic, antiseptic, and disinfectant, it is prompt and reliable, meeting more indications than almost any other remedy in use.

It is manufactured by the well-known firm of HANCE BROS. & WHITE, Philadelphia, who have secured an enviable fame as manufacturing pharmaceutists and chemists. Their preparations are deservedly esteemed for their reliability.